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Journal
OF THE NATIONAL ASSOCIATION OF CHIROPODISTS

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THE OFFICIAL PUBLICATION OF THE PROFESSION

VOL. 45, NO. 11 NOVEMBER, 1955

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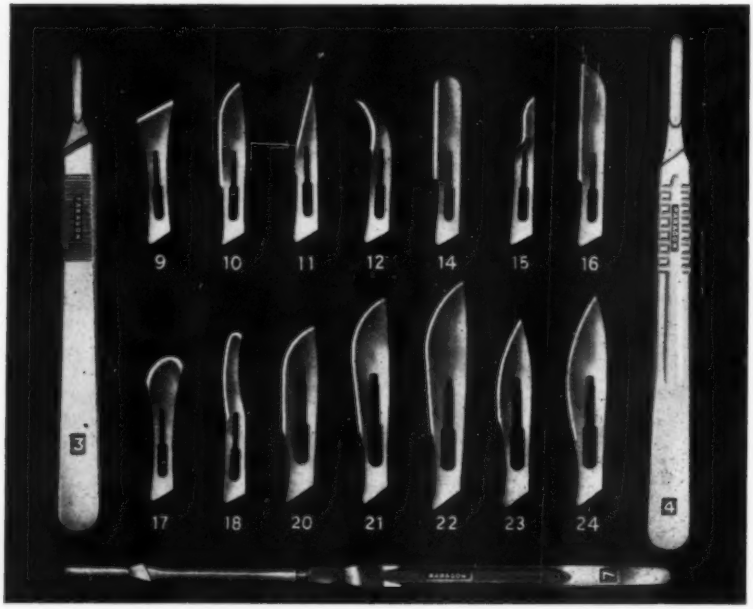

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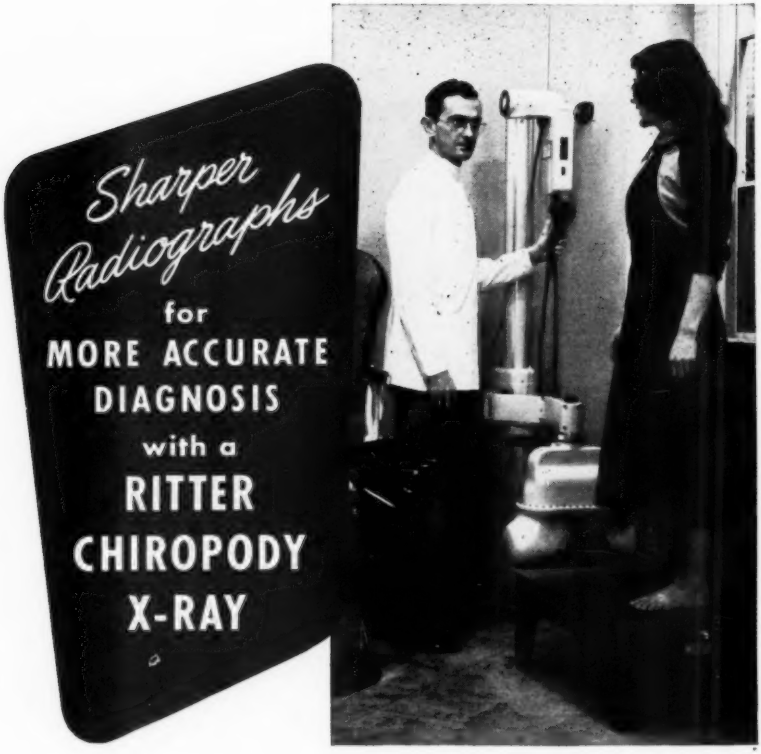

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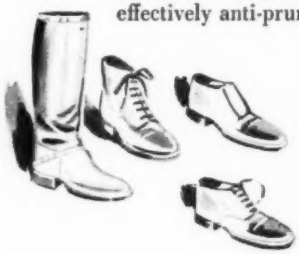

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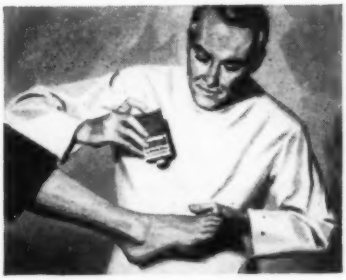

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VOLUME 45 NOVEMBER, 1955 NUMBER 11

THEORY, PHYSIOLOGY AND TREATMENT OF FOOT IMBALANCE*

CHARLES R. TURCHIN, D.S.C.
Washington, D. C.

SINCE the publication of Ellis' "The Human Foot" in 1893, there has been a constant flow of writing and theories as to the reasons for the existence of foot conditions. Basically most authors and lecturers have tried to create some form of footwear, appliance, or gadget, to bring about structural change to the foot to eliminate the symptoms.

Dr. Ralph Dye in his lecture in Pittsburgh in 1935 was the first to present the importance of function with the existing structure as the basis of foot troubles, rather than apparent deviations from a theoretically "normal" structure as the cause of foot ailments. He felt that variations in structure were both inherent and acquired through function and therefore resultant variations of function must be considered in treatment.

In 1944 Weinerman and Schreiber presented their important paper. The structure was approached for what it was—an individual, varying entity, and here for the first time was presented a means of determining the reasons for the existence of many of our foot symptoms. Dr. Ben Levy of Schenectady, N. Y., in his article, "Toe Flexion," brought into focus the importance of the function of the foot anterior to the metatarsals which had been so long neglected in our field.

The Physical Principles of Balance

Most orthopedic studies of the lower extremities have tried to distinguish between normal and abnormal structures. "Normal shape assures functional comfort" has been the approach in the past and this attitude still holds in many places. Lake reached a most sensible conclusion when he stated, "Unfortunately one sees in many branches of medicine – and foot conditions are no exception – the operation of the psychological trait which attributes every disturbance of bodily function to external factors, refusing to admit that there may be any inherent fault in the body itself. No doubt from the point of view of human self-respect, such an attitude is admirable, but when searching for the truth, we

*A condensation of lectures by the Author.

must recognize it for what it is—a form of self-conceit. In the case of the feet, it has become customary to place the blame for almost all disabilities and deformities (other than those patently congenital) upon foot wear. That the form of the foot can be profoundly altered by restricting forces is not denied—the Chinese ladies' feet of a previous generation are sufficient evidence—nor is it proposed to exonerate the shoemaker entirely, but I feel that only when due consideration is given to such evolutionary factors as here have been instanced shall we get a true picture of the origin of many foot troubles, or be able to explain their distribution among the population, well shod, or even completely unshod. A well-developed foot, judged by evolutionary criteria, may stand up to considerable abuse, failing only when the maltreatment becomes excessive, but a badly adjusted foot may fail under the normal stresses of ordinary locomotion without any misuse whatsoever."

There are also feet which are well developed as to evolutionary criteria, but which are painful without misuse, and feet which are poorly developed from an evolutionary standpoint, and which are painfree in spite of continual abuse. Why feet of similar morphology exhibit a wide range of symptoms, from very painful to painfree, will become evident later.

Comparative anatomy studies despite their value tell us very little functionally. Lower animal life has distinctly different functions from humans, and performs these functions in an environment completely natural; as against man's created environment, namely: hard, flat, surfaces. There are comparative structures but they should be studied comparatively for function. The relation of the animal to the surface upon which he functions has not changed radically, and his evolutionary physical adaptations can be slow and constant; whereas man has created a completely new surface upon which he functions. This has occurred far speedier than the evolutionary changes in his anatomical structures.

For many centuries the component parts of the feet have been regarded as the supporting structure of the body. Actually *the foot as a whole acts as a transmitting mechanism to a supporting structure.* Although the muscles, ligaments and bones do have some supportive function, they are very minor, and the basic support is the surface upon which we stand or walk. To have a supporting surface, we must have an area capable of displacing the weight of the body. This is in accord with the Third Newtonian Law which states, "For every action there is an equal and opposite reaction." For every pound of weight there must be a resisting force of one pound. This is a basic truth of physics, and for that reason man cannot walk on water, air, or any surface which cannot displace his weight; and for that reason feet cannot support the body. They act primarily as transmitters to a supporting structure. The body is supported only when the supporting structure or surface is not displaced by weight being exerted or transferred on such surface or structure. It should always be borne in mind that the thrust of weight or force through the foot is downward to the supporting structure when the foot is in a standing or walking position.

The pressure one feels on standing is not the pressure of the body's weight, but the pressure of the displacement weight or opposite forces at the point of contact with the supporting structure. To easily

illustrate this simple physical truth press your palms together; the right palm will feel the pressure exerted by the left palm and vice versa. This is important as different supporting structures exert their forces on the feet in accordance with the structure's conforming ability, resulting in some structures being more conducive to good foot function than others. For example, a cork floor can exert its displacement pressure over a larger area of the foot than can a concrete floor as there is greater resilience in cork than in concrete. This becomes an important factor to some feet that are called upon to perform their functions on a non-conforming supporting structure, as will be developed later.

Another important physical law that must be given full consideration in the diagnosis and treatment of foot debilities is the lines of forces transferring weight. All lines of forces travel in a straight line. They can travel at any angle, but only in a straight line. An arched surface such as the "Washington Arch" does not collapse because the lines of force are able to travel in a straight line through the curve until the lines of forces emerge from the base to supporting earth. Weight can be transferred only through the arch of the foot, provided the lines of force follow the structure. When they do not, a strain is created at the point of attempted exit because there is no supporting structure to absorb the downward force.

Strains and stresses even resulting in tears occur when the force has no plane to transfer its power. A good example is at the lateral side of the ankle when the foot turns suddenly inward to the median line of the body. The lines of forces would normally pass from the hip through the femur, through to the knee, and down the leg through the talus on through the foot to the supporting surface. When the foot turns, the line of force then goes through the ankle, lateral to the body of the talus and because there is no weight transfer through the foot, the line of force exits lateral to the ankle creating a sprained ankle; and if the force is strong enough, the strain may tear the structures at that point.

In the foot, the transfer of forces occurs at articular areas. During walking, the greatest transfer of weight occurs at the heads of the four lesser metatarsals. On standing, the tarsal area is subject to the greatest torsion inasmuch as that area rarely is on a conforming surface. The resultant torsion induces strain which in turn results in pain at what is commonly called the inner arch. The inward rotation of the foot which is so common in the so-called "weak foot" is nothing more than the foot trying to seek a weight transfer point as the lines of force travel through that area. If the articulations at the area involved are able to reach, without torsion, the supporting structure, then the foot can function without pain. But if these conditions are not met, the foot goes into torsion, resulting in pain from the strain or tear.

Physiological Intent and Function of the Foot

The function of any organ of the body, its capacities and limitations, are dependent on the structures of the organ and its auxiliary parts. An extensor muscle of the arm cannot be expected to flex the arm, nor can the parathyroid gland be expected to perform the functions of the liver. Each organ and segment of the body has a prime function although it may also have secondary functions. The skin by enclosing the body acts as a temporary

support of the parts, but its primary function is not support.

Where the physiological intent is for a great degree of motion, the joint will be of the freely movable ball and socket type, and the musculature can effect, under healthy states, this range of motion. In the cranial bones we find the joints to be synarthrodial, or immovable, with no muscles to move the bones, as the physiological intent is to limit motion severely, thus affording the brain a maximum of protection. Some motion does exist so limited trauma will not shatter the bone. However, the motion is so limited that the brain is adequately shielded from all but the severest trauma.

The foot may be approached physiologically by considering the three segments, namely: the tarsus, metatarsus and phalanges. The tarsus consists of seven square-like, squatty bones, with arthrodial joints giving them a gliding motion only, and with no angular or rotary movements. This limits the tarsal joints to very little motion, and therefore, the physiological intent limits function. To further prove the limited functional intent of the tarsal region, there are no muscles inserting into the tarsal region whose function is to move any of the tarsal bones. Every muscle inserting into this region serves to move the foot as a unit on the ankle. Since there are no freely movable joints, since the bones are short and squatty, and since there is not one muscle to move any individual tarsal bone, one must come to the conclusion that the physiological intent of the tarsal region involves very limited movement.

The metatarsals are five in number. The second, third, and fourth metatarsals articulate on three sides at their bases. The first metatarsal articulates usually only with the inner cuneiform but sometimes also with the second metatarsal. The fifth articulates with the cuboid, and with the fourth metatarsal.

Motion at the articulations of the metatarsals, as in the tarsal region, is considerably restricted. The basal articular surfaces are the gliding type arthrodial joint. There are no muscles inserting into the metatarsals for the movement of any single metatarsal bone, and, like the tarsal region, all muscles inserting into the metatarsals serve to move the foot on the ankle.

Unlike the short, squatty bones of the tarsals, the four lesser metatarsals are long, well-proportioned bones with a smooth rounded head that resemble a long bar in relation to the other bones of the foot. The first metatarsal differs greatly in that it is of a squatty appearance and invariably tends to be in a varus position.

The lengths of the metatarsals vary, with the most common length pattern being: 2-3-1-4-5. Some other variations are: 3-2-1-4-5; 1-2-3-4-5.

The phalanges are fourteen in number. There are five proximal phalanges, four middle, and five distal. They all are short bones consisting of a base, a head, and a shaft. The distal phalanges show very little shaft – the middle phalanges have some shaft, and the proximals have the longest shafts.

The articulations are freely movable and in the ginglymus class. They are profusely supplied with muscles which function to move the toes individually or collectively.

The proximal phalanges angle upwardly from their articulation with the metatarsals, creating a cavity which extends from the heads of the metatarsals to the distal end of the proximal phalanx. Here the middle phalanx and the distal phalanx continue either straightforward or slightly downward.

The hallux should receive special consideration physiologically. Of the five toes, the hallux differs most from the others, and its metatarsal bone differs from the other four metatarsals. The first metatarsal bone as previously stated is shorter and much broader than the other four. Its angle in relation to the tarsal region differs from the other metatarsals. The hallux has no middle phalanx. The hallux has six separate and distinct muscles acting on it, with a range of motion allowing it to be flexed, extended, abducted, and adducted. Of the four lesser toes, only the fifth has independent musculature. The hallucal phalanges are broader, flatter, and stronger than those of the lesser toes. With muscles for flexion, extension, adduction and abduction, the hallux has the ability to perform the rotary motion so necessary in a gripping action. Thus, like the thumb of the hand with its comparative group of muscles, the large toe has component parts to create a gripping or holding function.

In reviewing the bones and muscles and articulations of the foot, it is apparent that the physiological intent indicates limited motion at the tarsal and metatarsal region and considerable motion at the toes, and especially the large toe.

The shape of the bony structures of the foot is dependent on the genetic factors, function, and changes caused by disease or surgery. The functional factor is clearly defined by Wolf's Law. A similar situation exists with the muscles as stated by Davis' Law, however.

The bones of the foot are bound to each other by ligaments. These ligaments, more than any other structure about the bones, maintain the bones in position and in relationship with the other bones. The ligaments, by connecting the bones, should, therefore, be capable of exerting a resisting force because they are fibrous non-elastic tissue and have a supporting function. However, Keith's Law states, "Ligaments are never used for the continuous support of any joint or part." Therefore, the function of ligaments is to give a temporary support to the bones of the foot, prior to the transfer of the body weight, to a more capable supporting structure—the ground.

Pain in the foot from mechanical causes is concentrated at bone articulations, e.g., the articulation of the first metatarsal base and inner cuneiform. This would tend to prove Keith's Law as that articulation particularly is hardly ever in contact with the hard surfaces we now walk and stand on. The ligaments of the joint are called on to support the parts continuously, resulting in severe torsion at the joint with the resultant inflammation. Standing, based on Keith's Law, would of course be a greater strain than would walking, as the foot is at rest half the time during walking, but functions continually during standing.

When considering the phsiological abilities of the foot and leg, the understanding that the structure was created to function on a yielding, supporting surface, makes apparent the excellent architecture of the foot. The foot in its natural habitat, with only a few limited traumatizing surfaces to walk on, performs its work in a nearly perfect mechanical routine.

Walking is a falling motion. One must go into an active fall in order to achieve the motion of walking. The breaking of the fall with the opposite foot results in upright propulsion of the body. A child learns to walk when it realizes its ability

to break the fall of the body in the direction of the body fall, by use of the opposite foot and leg. The initial break of the fall is accomplished by the short stubby bone of the calcaneus and then by the other tarsal bones. Because of their stubby, square shape, the bones of the tarsal region can take an unusual amount of trauma without fracture. The limited movement in the articulations reduces the shock without the tarsal region going into barely controllable positions. Like the shock absorber on the automobile, the tarsal region is the gross shock absorber of the body in the transfer of weight to the supporting structure, and can absorb the counter or resisting pressure (Third Newtonian Law) without fracture to the bones. Here again nature has provided an excellent mechanical and physical structure to perform a given function so ideally suited for the structure.

The thrust of the body forward, plus the muscular action, sends the tarsal region in an upward angle from the heel, with the weight then being transferred through the metatarsals from the base articulations and through the anterior heads of the four lesser metatarsals. This puts the body into position for the next progressive fall. The weight is transferred through the four lesser metatarsal heads to the supporting surface. At this point the resisting or counter pressure exerted upward begins its important function in creating a crest or elevation. All lines of force travel in a straight line and through paths of least resistance. The upward position of the four proximal phalanges and straight or downward position of the middle and distal phalanges normally create a cavity between the area anterior to the metatarsal head and the distal ends of the proximal phalanges. The upward pressure of the soft earth, reacting to the pressure through the metatarsal heads, fills in this cavity with a crest which serves three important functions:

1. It stops the forward thrust or gliding of the metatarsals which prevents the foot from sliding forward (First Newtonian Law).
2. It acts as a pivot for the phalanges of the foot.
3. It acts as a wall, for the distal phalanges, to permit a grip for the thrust to the next fall. (See Fig. 1.)

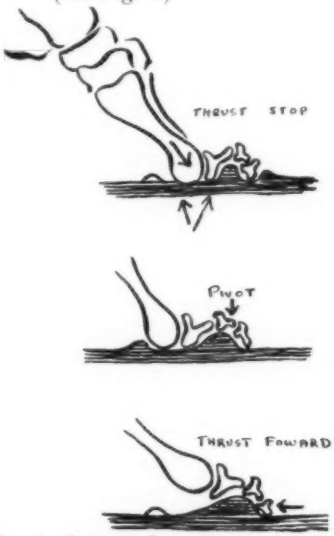

Fig. 1. Buttress formation on a yielding supporting surface.

When the supporting surface is unyielding and the metatarsal-phalangeal area cannot create a crest, the foot slides forward, and the toes assume a function of holding the forward thrust. With the toes holding, the metatarsals pick up the function of propelling the body forward to its next fall — a function foreign to the structure and resulting in trauma at that area.

The large toe assumes in the walking or standing function a holding position on the supporting structure, similar to the grip of the thumb on a large object. As one observes the foot imprint, it can clearly be seen that the hallux shows the position of the distal and proximal phalanx, whereas the four lesser toes show only the round ends of the distal phalanx. The hallux, because of its physiological individuality, does not perform a primary function of propulsion and as a result of its gripping and holding abilities, becomes extremely important in the balance of the body through weight transfer at the foot. It can be clearly seen that when the hallux goes into a valgus position, its primary function of holding is impossible to achieve by the large toe, and the foot goes into imbalance.

Here would be a good time to discuss the so-called "rotating heel" and Helbing's Sign. For many years we have been locking the heel in an attempt to align the other bones of the foot anterior to the calcaneus. The question is—when does the heel rotate, at the initiation of the step, or at the near completion of the step? The heel does not rotate even a portion of an inch at the initiation of the step, but only when the forefoot goes into imbalance. Experiment and observation again and again showed no heel deviation (Helbing's Sign) until the subject was told to put his weight on the whole foot, and then the heel rotated. The subjects used were only those who had definite Helbing's Sign. The heel rotation is, therefore, governed by the degree of imbalance, and plane of imbalance, at the forefoot.

Reference to the heel is made on a heel whose alignment, in relation to the tendo achilles, is straight in an off weight bearing position. If there is a heel rotation as a result of disease, surgery, or years of malfunction, then balance of the forefoot would not straighten the diversion. However, as on the straight heel, the balancing of the foot will prevent further diversion of the diverted heel, and any diversion of the straight heel.

A similar situation exists at the head of the talus which becomes prominent on the flaccid type foot on weight transfer. This is the type foot that is referred to as the "weak foot" and about which the patient says, "his arch drops when he walks or stands." Proper forefoot balance prevents this condition.

Standing is a continuous function of the lower extremity. Walking is an intermittent function, as one foot is at rest while the other is transmitting the weight to the supporting structure. Physiologically, again the foot can stand on a conforming surface and transmit the downward thrust of body weight without torsion when the surface is in contact with the individual contour of the foot. However, when the supporting structure is non-conforming, and the ligaments must take up the resistance to the downward force of the body weight, the result is a constant violation of Keith's Law with trauma at the joint spaces. Standing on a non-conforming surface is foreign to the physiological intent of the foot.

Women's feet hurt more than men's — not because of the shoes they wear, but because of the functions a woman has to perform in her daily life. The average male does not use his feet to the extent that woman does in her daily chores. The mother cleans the home, makes beds, climbs stairs, shops, cooks, etc., and it is no wonder her feet hurt more often! When the male animal is called upon to

perform similar functions, he usually ends up in the practitioner's office with complaints similar to the opposite sex. It is not the shoes that hurt—it is the feet. Look to the foot, its functions and environment for the cause, and let us stop blaming all evils on shoes. A good pair of feet can wear any shoe fitted, within reason. A bad pair of feet cannot wear the shoe boxes comfortably!

Normal and Abnormal Structure and Function

The basic intent of all treatment is to return any part to a functional or structural normal or as near normal as would be possible for the part being treated. First, and most important, is to determine what one considers normal in relation to structure and function. Normal is defined in the dictionary as "agreeing with the regular and established type." When one approaches the structure of the foot, the question of normal should be relative to the individual and not a comparison to some other structure. The structure of the individual being examined is a unit within itself with all its component parts subject only to the structure under investigation. It would be incorrect to expect any bone in that foot to be exactly the same as the bone in another one. Each foot has its own peculiar variation in bones, joints, ligaments, muscles, etc. Each part, each unit, and each foot, is a separate and distinct segment comparable only with its own individual structure.

It therefore behooves us to try to define what we can term a "normal individual structure." Past teachings have been to stress the return of the painful foot to its normal alignment. To achieve that end, the practitioner obligates himself to the removal of all pathology and tries to realign the foot or its segments to the so-called "normal alignment." If the metatarsal appeared depressed, it was thought fair to assume that the metatarsals had dropped and, therefore, the patient had to have a metatarsal raise to restore it to a so-called "normal contour."

Yet, we find many millions of feet with depressed metatarsals free of pain, and dermatological lesions such as calluses, and with no pathology present. Where then does normal begin and end? If we see a patient for the first time, can we, if we assume there is a malalignment of structure, tell him truthfully the extent, degree, or amount of malalignment if we never saw the foot before and have no comparative measurement?

If a patient has had a disease such as infantile paralysis which has left a residual change in the structure of the foot, the question arises whether or not the residual is normal? If surgery is performed on the foot in which some structures are removed, in whole or in part, once again is the resultant foot structure normal or abnormal? The author feels that in both cases the result is a "normal individual structure." *Regardless of the shape of any structure, the structure is an individual normal structure if it is absent of pathology, and has no break in continuity.* If a foot has any pathology or invasion of any foreign matter, that foot structure, of course, is abnormal becuse we can definitely see, feel, and detect the abnormality according to pathological standards. If there is a fracture or acute joint displacement, we can again see, feel, and detect that abnormality.

However, if those factors are absent, the structure is normal to the individual and that is what he has to function with, and the range of

function is dependent upon the individual structure. In the case of an enlarged joint, such as the hallux valgus, the practictioner must face the fact that this form exists and that the patient must function within the limits of the hallux valgus. What the structure was before is unimportant; what it is at the time of presentation is normal to the individual. Through surgery or orthopedic treatment, the structure may be changed from one normal to another. However, it is only assumed that the new normal structure may permit a greater functioning of the part without pain.

Consideration must be given to the natural compensations other auxiliary parts make when any structure changes its contour or function. A radical change in the bony structure can bring a further reduction of function, or function with pain. This is due to the inability of auxiliary structures to perform the range of motion now possible. This is most prevalent in hallux valgus correction. Post operative care and gradual return to new function is paramount in the full correction of this condition. The post operative care, based on Wolf's and Davis' Laws, is to allow the bony structure and the soft tissues to make the necessary physiological adjustments, if possible, to permit the new normal individual structure to function without pain.

Normal function must be considered in the same classification as structure, and that is relative to the individual and not to any range arrived at through a comparison, or other functional abilities. The function of any part of the foot is dependent on the anatomical limitations, muscular ability, nerve impulse response, circulatory state, and the general physical capacities of the individual. The only comparison we can use is the other limb of the individual, provided there is very little or no deviation between the structures and abilities of the auxiliary tissues of the limbs. In the case of an unilateral paralysis, it is not reasonable to use either limb as a normal structure, as each is normal to itself and each has its own range of normal function. Where a part has become completely ankylosed, such a part will be limited in its function unless the ankylosis is eliminated. If, however, the part cannot be relieved of its ankylosis, it remains that individual's normal within the range of function accomplished without pain.

Similar-shaped structures can differ greatly in range of function dependent on joint space, articular surfaces, muscular ability, etc. We cannot expect all similar structures to function within the same range. Although similar structures function in a similar pattern, the range of motion differs, and where one structure can perform a certain function without pain, another similar structure will perform the same function, but with pain.

Therefore, we define normal function as any function performed by the individual structure which is within the range of the parts comprising the structure, and permitted by auxiliary structures, and functions without pain. If the function is painful, then it is abnormal and the foot should be limited in its range of function; or attempts should be made to increase the normal range of the parts involved. For example, if a patient has an excellent structure but because of a cardiac condition he is limited in the use of the structure, then we have limited function because of an auxiliary deficiency.

Functional Balance and Imbalance

The concept of an infinitely varying normal structure and the un-

derstanding of the weight transmitting function of the foot, rather than the supportive function, lead to a re-evaluation of foot disorders regarding the functional potential of the part.

Regardless of the shape or structure of the foot, we find one thing common to all feet in our civilization. We all walk on a flat, non-yielding structure. In the modern city the non-conforming surfaces of the street, floor and shoe are always present. In the countryside where there are no roads or sidewalks, the home still has a near non-yielding or non-conforming structure. Even the farmer in the field has direct contact with a near flat non-yielding structure at the inner surface of his shoe.

We find ourselves with a foot capable of evolutionary changes which require thousands of decades to accomplish, and which has developed on an uneven yielding supporting structure, and which has been almost always unshod, suddenly thrust on a hard, flat non-yielding surface and shod in a similar plane. Our evolutionary changes are too slow for our civilization and scientific advances.

With the supporting structure refusing to yield, and with shoes that do not conform, the foot must change its structural alignment in order to conform as close as possible to the supporting structure. Some feet can conform without going into torsion or strain. Other feet are limited in their range of motion and in order to achieve the standing or walking function, must go into some degree of torsion, creating pain and symptoms at various parts of the foot and leg.

When a foot can transfer the body weight to a supporting surface with no pain to the foot or leg, then such a foot is in balance functionally in relation to the supporting structure. This foot has the ability to conform to the existing supporting structures without going beyond its normal range of motion, or has the ability to transfer the weight through that part of the foot in contact with the supporting structure, without trauma.

When a foot, in order to transfer the body's weight to the supporting structure must go beyond its normal range of motion, then such a foot is imbalanced.

In short, a foot is balanced when it is able to resolve the transfer of body weight to the supporting structure without torsion and/or pain. A foot is imbalanced when it must go into torsion and/or pain in order to transfer the body weight to a supporting structure.

In treating foot imbalances, the practitioner has two parts of a three-part problem in his favor. He knows the normal structure of the existing foot and the symptoms of the foot. He knows that the mobile foot structure has to function on a non-yielding flat supporting area. To add the pads or strappings to permit the foot to transfer the body weight without torsion or pain is the third part of the problem.

Imbalances of the forefoot are varied, but observation for many years shows that the majority are of four basic types, namely: Lateral Imbalance, Medial Imbalance, Biplane Imbalance, and Mid-Metatarsal Imbalance. Mid-Metatarsal Imbalance, which is quite common, is usually in combination with other forefoot imbalances.

The nomenclature of imbalances is considered in the light of forefoot function (based on the original nomenclature appearing in Schreiber and Weinerman's article). That part of the foot that cannot transmit weight transfer is considered off balance. A foot trans-

ferring weight from the heel to the inner part of the foot and then lateralward, in which the lateral side of the forefoot does not completely resolve the weight transfer, is considered in Lateral Imbalance (Fig. 2B).

The opposite is true in the Medial Imbalance. Here we find the weight is transferred through the heel to the lateral side of the forefoot, and as the foot attempts to throw some weight through the medial side, the forefoot is unable to resolve, completely, the weight transfer at the medial side. Therefore, the medial plane is off balance and away from the supporting structure (Fig. 2A).

In the Biplane Imbalance, the most common of all imbalances, the weight is transferred through the heel and onto the second and third metatarsal area. The foot then cannot resolve the weight transfer either laterally or medially, resulting in an imbalance on both planes, therefore, the name Biplane Imbalance (Fig. 2C).

On the Mid-Metatarsal Imbalance there is no transfer of weight through the second, third, and fourth metatarsal heads of the forefoot (Fig. 2D).

On the Mid-Tarsal Imbalance there is no transfer of weight through the mid-tarsal bones to the ground, resulting in severe torsion to the ligamentous structure, especially the plantar fascia at its origin and attachment. (These Imbalances and miscellaneous Imbalances will be discussed later.)

The buttress, as described, is at the shafts of the proximal phalanges and padding this area follows the contour line of the metaphalangeal joints. The buttress padding is used to prevent the forward thrust of the foot to allow for a pivot action of the toes, and to act as a resistance wall for the distal

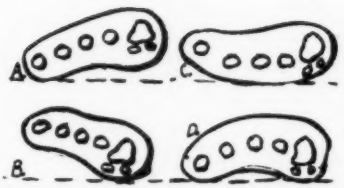

Fig. 2. Cross-section scheme through metatarsal heads. A. Medial Forefoot Imbalance; B. Lateral Forefoot Imbalance; C. Biplane Forefoot Imbalance. D. Mid-Metatarsal Forefoot Imbalance.

phalanges to push off to the next fall in walking. In standing, the buttress acts as a pivot to take weight off the metatarsal heads and to permit the lesser toes to exert a gripping action on the supporting surface.

Materials used in the treatment of the imbalanced foot vary according to the intent desired and the method of application.

On the foot itself, adhesive is used to lock or limit any particular joint. Adhesive felt is used to realign the surfaces to a better balance relationship. The use of foam and sponge rubber for balance pads has proven successful inorder to alleviate trauma at an inflamed area. Felt is the most popular as it best fills the basic need for a good material. Felt has resistance and still retains the ability of changing its contour to the various demands of the foot in all its functions. When a patient cannot tolerate adhesive, other methods are used, as later discussed.

In shoe therapy the use of felt, cork, rubber-cork, and leather pads covered by the shoe lining has proven most popular. There has been a steady trend to use the improved plastics with special emphasis on the non-hardening plastics that change contours in accord-

ance with the demands of the foot functions.

In appliances, the use of the great variety of materials proven in the past for durability is still the most popular, but aligned in an individual manner to the individual structure and the functional demands and limitations of the structure.

The Lateral Imbalanced Foot

The Lateral Imbalanced Foot is one of the more common types seen in the average office. The functional abilities of the foot are such that the weight is transferred initially from the heel to the inner side of the foot at the first metatarsalphalangeal articular area. The foot then attempts to transfer the weight to the lateral side, which transfer never is completed, and the greatest point of weight transfer remains at the large toe area. The roll of the forefoot is always to the lateral side (Fig. 2B).

This type foot presents one or more of the following symptoms:

a. Tyloma under the head of the first metatarsal;
b. Enlargement of the first metatarsalphalangeal joint;
c. Heloma on the fifth toe or any of the lesser toes if they are on an equal or higher plane than the fifth;
d. Tailor's Bunion;
e. Pseudo-Morton's Neuralgia;
f. Heloma Molle at the third or fourth interdigital space;
g. Turning of that ankle at the lateral side;
h. A typical shoe wear pattern.

We will study each symptom separately and see how it is induced.

Tyloma under the head of the first metatarsal

The tyloma at the head of the first is the result of the forward thrust, and opposing forces, as the weight is transferred through this area to the supporting structure.

Enlargement of the first metatarsalphalangeal joint

The enlargement of the first metatarsalphalangeal art. is the result of the constant trauma to that area as a result of the weight transfer being concentrated at that point (Wolf's Law).

Heloma on the fifth toe or on any of the lesser toes if they are on an equal or higher plane than the fifth

The heloma on the fifth or other toes, if they are on an equal or higher plane, is the result of the lateral side attempting to reach the supporting structure. The shoe and supporting structure are stationary and only the foot is mobile. This permits a constant motion and roll of the lateral side towards the ground, creating intermittent pressure on the toes against the sides of the foot covering. The base and head of the proximal and middle phalanges, offering a counter pressure against the foot covering, results in the adventitious bursae or helomas.

Tailor's Bunion

The Tailor's Bunion is created in the same fashion as the heloma on the toes except that the head of the fifth metatarsal and/or the base of the proximal phalanx receives the intermittent frictional pressure on the lateral side as the foot moves downward toward the supporting surface and then upward when weight is released.

Pseudo-Morton's Neuralgia

The Pseudo-Morton's Neuralgia is the result of the motion of the metatarsals as they move towards the supporting structure and the resultant irritation to the area around the lateral nerves. The Pseudo-Morton's differs from the true or Morton's Neuralgia in that the Pseudo is limited to the area

of the metatarsal heads, and is much less severe and there is no thickening of the nerve tissues.

Heloma Molle at the third or fourth interdigital space

The Heloma Molle is created similar to the Pseudo-Morton's. If the bony contour of the opposing metatarsal heads or phalanges is subjected to intermittent irritation, the constant motion of the parts against each other as the foot seeks to transfer its weight laterally, creates the Heloma Molle at the involved interdigital space.

no weight transfer at that area. If there is no wear at the break of the shoe and the posterior part of the sole, then the foot is most likely pes cavus in shape and a Mid-Tarsal Imbalance may also be present (Fig. 3A).

The pad is put onto the lateral side extending from a point anterior to the heads of the metatarsals to beyond the bases of the metatarsals. The width of the pad will vary according to structural imbalance from an area involving the fifth meta-phalangeal area to

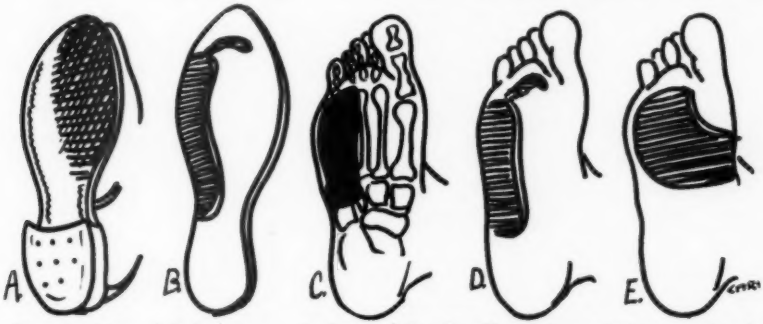

Fig. 3. Lateral Imbalance. A. Lateral Border Shows Least Wear; B. Insole Pad with Buttress; C. Lateral Pad; D. With Buttress; E. Dancers Sesamoid Lateral Pad.

Turning of the ankle at the lateral side

The turning of the ankle at the lateral side is the result of the lines of force going through the lateral ankle as the center of gravity is fixed and the lateral turn of the foot sends the force through the lateral ankle instead of through the foot. As the lines of force pass through the ankle, it tries to reach a weight transfer point. The result is a sprained or traumatized area if the forces are strong enough to tear the ligamentous areas at the lateral side.

The sole of the shoe shows its heavy wear pattern at the medial side. The lateral side of the shoe shows little or no wear, indicating

an area involving all four lesser metatarsals (Fig. 3C-D) and toes. In most instances where the fourth metatarsalphalangeal joints are involved, the foot is usually cavus in shape. Where there is a pes cavus shape, the pad should be similar to the dancer's foot or sesamoid pad, but extended back to the articulations of the metatarsals and tarsal bones (Fig. 3E).

Shoe therapy would be similar to the foot padding. The inner surface of the shoe is raised on the lateral side (Fig. 3B).

Removable pads, either on the foot or in the shoe, are built similar to the foot or shoe padding.

The thickness of all pads depends on the degree of imbalance.

The majority of feet are imbalanced within the range of 1/16 to 1/8 inch, but in some cases, the thickness may exceed 1/2 inch. The important thing to remember is that the extra degree of imbalance necessary to produce pain is very minute, and that a thin pad in most cases is all that is required. The foot can and does tolerate a considerable degree of imbalance and only when the individual structure goes into an excessive degree of imbalance, do symptoms occur. These symptoms are very often reduced or eliminated by only 1/16 inch padding.

The Biplane Imbalanced Foot

The Biplane Imbalanced Foot is the most common type of imbalanced foot that appears in the practitioner's office.

Weight is transferred from the heel to the metatarsal area and then cannot be resolved either laterally or medially, thus transferring weight only through the second and third metatarsal heads with the foot remaining in an unstable position during function.

Biplane is the most common of all imbalances due to the metatarsal length pattern. Weight being transferred through the metatarsal area during propulsion brings the final ground contact on the second and/or third metatarsal head. The metatarsal ratio 2-3-4-5 results in the lesser metatarsal heads not being in contact with the unyielding weight-bearing surface which results in an undue amount of trauma at the heads of the second and third metatarsals. There is the usual periostitis and swelling at the metatarsal area, and this condition is what has been commonly known as "depressed metatarsals" (Fig. 2C).

One or more of the following symptoms will be noted on the biplane imbalanced foot:

a. Helomas on lateral toes;
b. Tailor's Bunion;
c. Edema and sensitivity at the heads of the second and/or third metatarsals;
d. Tyloma under second and/or third metatarsals;
e. Hallux valgus or enlargement of hallux medially;
f. Pseudo Morton's Neuralgia;
g. Heloma Molle at lateral webs;

(Continued on Page 45)

CUBOIDALGIA: SYMPTOMS AND MANAGEMENT OF SAME

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An uncommon foot ailment of the lateral tarsal region that puzzles the practitioner is a condition which somehow remains undefined. Since dictionaries and inquiries produced negative results, we concluded for patient terminology to call the condition cuboidalgia.

Any vague pain or discomfort in the region of the cuboid might be aptly termed cuboidalgia. This short, almost square, bone in the midlateral part of the foot seems to escape the many ills and injuries of the tarsal and metatarsal members, although it is not entirely invulnerable.

The fifth metatarsal, for example, whose base articulates with the cuboid, seems to be more subject to bruises and fractures than any other bone in the foot; moreover, it is not uncommon to find the cuboid dislocated when the base of the fifth metatarsal suffers a fracture. The cuboid in such injuries is almost always luxated downward.

In fetal life, it is believed, the cuboid and the navicular lie lateral to each other, whereas after birth the cuboid's position becomes inferior to the navicular. The ossification of the cuboid, furthermore, is peculiarly unhurried. Its primary center of ossification appears about the tenth lunar month of the fetal period, and ossification is completed after puberty.

While the small square-like cuboid has four articular surfaces (and some text books report three) it is almost encircled by five bones of the tarsus: the calcaneus, scaphoid, external cuneiform, and the bases of the fourth and fifth metatarsals. It is securely retained in position by the following ligaments: calcaneocuboid, the dorsal and plantar ligaments and the interosseous ligaments. The peroneus longus passes through a groove on the under surface of the cuboid and continues obliquely to the base of the first metatarsal bone.

Ligaments are defined as any tough fibrous band which connects bones. The tarsal plantar ligaments, then, maintain the cuboid in its position; but when the cuboid is displaced plantar-wise it obviously occasions pressure on the peroneus longus as it passes through the inferior groove. The peroneus longus is inserted in the head of the fibula and the upper two-thirds of the peroneal surface of its shaft externally. Since the musculo-cutaneous branch of the external popliteal nerve supplies this muscle, we can at once understand why the cuboidalgia patient complains of pains in the upper outer part of the leg.

The persistent trauma caused by the subluxated cuboid irritates the surrounding structures and accounts for a diffuse and indefinite pain in the tarsal plantar area, at times even affecting the basal joint of the second metatarsal, frequently a point of deep soreness in metatarsal syndrome, according to Dr. Dudley J. Morton.

Excepting crushing injuries, fractures of the cuboid are not often reported, possibly because it is protected by the adjacent bones. Furthermore, strains or sprains of the ligaments involving the cuboid are not too common; most likely because the ligaments stated above are so short.

Nevertheless, too often the patient with a discomfort in the cuboid region is treated for a foot sprain with the conventional heat therapy or ice packs and longitudinal strapping. While a firm strapping promises some relief it does not provide lasting results. Corrective shoes recommended for the condition also inspire no gratitude from the patient in quest of foot comfort. However, a prescribed combination arch brace, by restoring normal alignment of the tarsal and abducted metatarsals, relieves the impinged cuboid. In some instances then the elevated support promises comfort and restores normal activity.

Symptoms for this ailment often are confusing and do not seem to follow a set pattern. In some cases it is difficult to differentiate with a fourth toe Morton's neuralgia because some patients will complain of darting pains to the fourth toe and a cramp-like seizure of this digit. Moreover, as stated above, a referred pain often passes up the leg and extends into the thigh.

Standing or walking aggravates the ache but relief is not assured upon sitting or lying in bed. One patient complained of a throbbing, excruciating pain that awakened her from sleep. Hot or cold packs provided no comfort; but some relief was derived on applying a circular elastic arch cuff which, on a former occasion, we suggested for a slight foot strain.

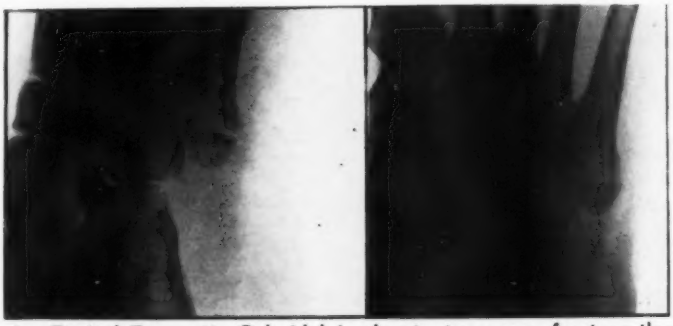

Fig. 1.—Typical Traumatic Cuboidalgia due to transverse fracture through base of 5th metatarsal.

Another young woman reported an extreme tenderness along the external border of the foot. While palpation did not aggravate the sensitiveness, nevertheless the condition became more intense on pressure over the cuboid.

The absence of swelling is puzzling. Motion of the foot, flexion, extension or lateral movements account for some pain in the dorsal area of the cuboid. Palpation between the peroneal tubercle and the tuberosity at the base of the fifth metatarsal might decide the diagnosis. Pressure on the dorsal surface sometimes elicits pain, whereas pressure on the cuboid plantar surface is sure to induce a sudden dart of pain, causing the patient to flinch.

When palpating a weak foot or a flat foot, digital plantar pressure will soon reveal an extremely tender area at the cuboid; a soreness not likely found in a chronic pes planus. Advanced pronation and abduction admittedly typifies a flat foot. However, the impinged cuboid in such cases escapes notice. A close examination of a Roentgen print will disclose the crowded position of the defenseless cuboid when in an everted flat foot the angulated 5th, 4th and possibly the 3rd metatarsals force their bases against the helpless little cuboid. Small wonder the cuboid does not protest more often.

An impingement of this type is likely to develop a cellular irritability affecting the adjacent structure of the cuboid and thereby setting up a train of typical pes planus symptoms. This tenderness compares with the symptoms of a displaced cuboid.

A radiographic examination is advisable to discount a possible chip fracture, arthritic involvement, or the presence of an os peroneum supernumerary sesamoid bone which is buried in the tendon of the peroneus longus muscle as it passes beneath the cuboid. However, the writer has not to date found any diagnostic clues in a radiographic pictue to help determine a cuboidâlgia condition.

Pain on pressure is usually positive proof of a slight subluxation of the cuboid; as a rule the upper posterior medial aspect is impinged while the posterior lateral plantar aspect of the cuboid discloses a definite separation. Pressure of the displaced cuboid on the external lateral plantar nerves obviously accounts for the lancinating or throbbing pains at rest or on weight bearing.

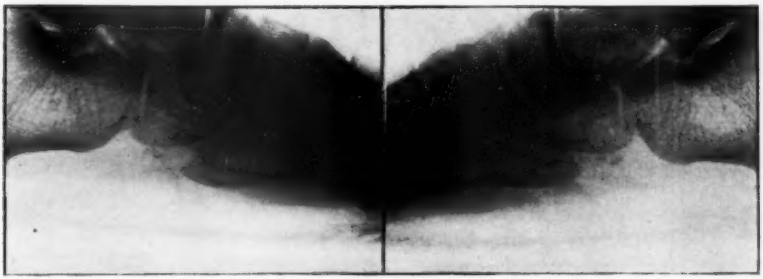

Fig. 2.—Fragmented (right) Os Peroneum Sesamoids (bilateral). Often mistaken for cuboid fracture.

Patients rarely offer a history of trauma to help the diagnosis; however, prolonged standing, fatigue or a twist of the foot in jumping or walking, a misstep could account for altering the position of the cuboid. Since to date no children have reported a cuboidalgia in our office, and since the condition is uncommon with male patients but more common with housewives, we must conclude that housework is frequently responsible for the ailment.

Cuboidalgia, then, might be considered an occupational affliction.

Treatment is simple: A piece of felt about 1/8 or 1/4 inch thick and almost 2 inches square is applied to the plantar surface of the cuboid and kept in position by a small yet firm longitudinal strapping which encases the foot. The patient is advised to apply a heating pad if pain persists, and to return in four or five days.

If relief is not positive a thicker pad is indicated. However, if patient is relieved after the first visit a combination arch support, including a cuboid raise, is prescribed. Prognosis is usually excellent.

Results have also been satisfactory from recommending a 1/8-inch Thomas cross bar; a felt cuboid pad cemented in the shoes; at least one inch external extension of the heel of the shoe; a foam rubber pad tucked under the stocking. The latter is advisable only in mild cases.

Summary

When a vague ailment in the external border of the foot, sometimes even involving the fourth and fifth toes, refuses to respond to conventional strappings and diathermy a cuboid pad is recommended. The puzzling syndrome might indicate cuboidalgia.

955 Main Street

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X-ray prints Courtesy of Bernard D. Sherman, D.S.C.

JOURNAL

OF THE

NATIONAL ASSOCIATION of CHIROPODISTS

PUBLISHED UNDER THE DIRECTION OF THE EXECUTIVE COUNCIL
BY THE NATIONAL ASSOCIATION OF CHIROPODISTS

A. RUBIN, D.S.C., *Editor*
3301 SIXTEENTH STREET, N. W.
WASHINGTON 10, D. C.

Address all communications intended for publication, matter relating to advertising, business or subscriptions to the Editor.

PRESIDENT'S MESSAGE

YOUR OFFICERS and the executive council will meet shortly in Washington to discuss and arrange for the future policy and activity of your profession. We have an agenda that will endorse the statement that we are definitely progressing, definitely going ahead. Anyone having a question or suggestion is urged to submit same to our Secretary, Abe Rubin, who will bring it up before the meeting.

Among the subjects to be discussed are:

(1) The Mott Report, concerning the survey of our profession, its needs and the requirements for our future progress.

(2) The Stickel Memorial Library, headed by Co-Chairmen — Turchin and Krausz.

(3) Dr. Rubin's contract and lease, and policy for all of our standing committees.

Reorganization is a big job, and no one realizes it more than the men whom you have made responsible for this job. We will do our best, with your assistance, so when you are asked to help us gain an objective, do not hesitate to act "pronto."

We hope to get many objectives started this year. We want a bigger Journal, but this cannot be accomplished without the scientific chairman of the various state societies sending in articles worthy of print.

We hope to raise the "average" level of our profession by aiding and assisting those state activities needing additional help. We shall always be ready to help those who are willing to help themselves, but we cannot accomplish anything ALONE.

How about it?

RALPH E. FOWLER

FOR AN ARTICULATE PROFESSION

ELSEWHERE in these pages is an announcement concerning the annual awards for research. Out of our great respect for our late Executive Secretary, the 1955 House of Delegates fittingly re-titled them the Wm. J. Stickel Annual Awards for Research in Chiropody.

Proper recognition is thus afforded to those who have spent time and effort in collecting information, evaluation of pharmaceuticals, materials and technics, and the development of new therapies and diagnostic procedures. Another equally important facet of these awards is the stimulation of the writing of good papers.

Our members, individually and collectively, have been woefully inarticulate. In our well-intentioned efforts to avoid appearing flamboyant, we have let the pendulum swing too far. We must emerge from our shell of reticence in order that the members of our profession and the general public be made aware properly of the many and newer avenues of foot care and health.

The periodicals of many of our healing arts and sciences have the problem of almost too many manuscripts. Unfortunately we do not. And we must. The pages of our Journal will have to provide the source material for regular releases to the various news media of the nation.

To date the dissemination of the mass of newer information occurs at formal and informal gatherings in our profession. You must put this information to paper to obtain as wide a distribution of these thoughts as possible.

The subject matter in manuscripts need not be earth-shaking. In fact, if it is it may be dormant for years in the literature. Mendel's work on hereditary traits was buried fifty years before it was brought back to light. And the papers need not be elaborate or lengthy. Many of the better ones are short ones.

All of you have something to contribute and it is your professional duty to do so. Certainly you have had many unusual and interesting cases. Some of you do unusual work in anatomical restorations. Others are extremely adept in the application of materials and technics for prostheses, post-surgical prophylactic devices and routine and non-routine appliances. Some of you have done research and reading in dermal histopathology and histophysiology and biomechanics, to cite a few areas. What about early diagnosis, and preventive and phophylactic care in systemic pathologies? How does your surgical approach differ or what has been your experience with certain procedures?

We must become more articulate. We can no longer afford to "blush unseen." The Journal must be able to express our full professional capacities.

EXECUTIVE COUNCIL TO MEET

PRESIDENT Ralph Fowler has called a meeting of the Executive Council of the National Association of Chiropodists for December 10th and 11th at the Woodner Hotel, Washington, D. C.

AFFILIATED STATE SOCIETIES

Showing Society, President and Secretary

Alabama Association of Chiropodists	Dr. John Cooper, 407 Empire Bldg., Birmingham, Ala. Dr. Elizabeth P. Sealy, 34 S. Perry St., Montgomery, Ala.
Arizona Chiropody Association	Dr. Samuel Mason, 144 N. 1st St., Phoenix, Ariz. Dr. Martin Snyder, 2629 E. Broadway, Tucson, Ariz.
Arkansas Association of Chiropodists	Dr. W. F. Walker, 912 E. Main, El Dorado, Ark. Dr. Walter C. Gigerich, Arkansas Natl. Bank Bldg., Hot Springs, Ark.
California Association of Chiropodists, Inc.	Dr. Robert Shor, 4480 Crenshaw Blvd., Los Angeles, Calif. Mr. E. A. Devereux (Ex. Sec.), 3401 Riverside Blvd., Sacramento, Calif.
Colorado Association of Chiropodists	Dr. G. D. Patton, 1013 9th Ave., Greeley, Colo. Mrs. L. I. Lorett (Ex. Sec.), 4871 S. Penn, Englewood, Colo.
Connecticut Chiropody Society Inc.	Dr. S. Rudnick, 267 Center St., West Haven, Conn. Dr. Margaret L. Halloran, 75 Pratt St., Hartford, Conn.
Delaware, Chiropody Society of	Dr. H. H. Layton, 805 Washington St., Wilmington, Del. Dr. Curtis H. Layton, 77 E. Main St., Newark, Del.
District of Columbia Podiatry Society	Dr. Alec Levin, 1835 Eye St., N.W., Washington, D. C. Dr. Richard A. Cole, 1835 K St., N.W., Washington, D. C.
Florida, Chiropody Association of	Dr. R. L. Dryfuse, 518 Lake Ave., Lake Worth, Fla. Dr. Joy E. Adams, 401 Fla. Natl. Bank Bldg., St. Petersburg, Fla.
Georgia Association of Chiropodists	Dr. J. B. Stevens, 420 Bibb Bldg., Macon, Ga. Dr. William J. Meadors, 306 Martin Bldg., Columbus, Ga.
Idaho Association of Chiropodists	Dr. J. E. Franden, 719 Main St., Boise, Idaho Dr. M. D. Harris, 341 W. Clark. Pocatello, Idaho
Illinois Chiropody Society	Dr. J. B. Collet, 1482 Miner St., Des Plaines, Ill. Dr. Max L. Golde, 2104 Broadway, Rockford, Ill.
Indiana State Podiatrists Association	Dr. C. W. Hoard, 406 W. Jefferson St., Fort Wayne, Ind. Dr. A. J. Deeley, 413 Gettle Bldg., Fort Wayne, Ind.
Iowa State Chiropody Association	Dr. C. C. Reinheimer, 214½ First Ave., West, Newton, Iowa. Mrs. Grace C. Alber (Ex. Sec.), 638 37th St., Des Moines, Iowa
Kansas State Chiropody Association	Dr. Lawrence Krause, 1107 Williams St., Great Bend, Kansas Dr. Jacquoline Comstock, 527 Mills Bldg., Topeka, Kansas
Kentucky Association of Chiropodists	Dr. E. E. Simonton, 3618 Lexington Rd., Louisville, Ky. Dr. Chester A. Nava, 728 Starks Bldg., Louisville, Ky.
Louisiana State Chiropodists' Association	Dr. Nicholas Zichichi, 1016 Pere Marquette Bldg., New Orleans, La. Dr. Joseph Weinberg, 5300 Freret St., New Orleans, La.
Maine, Chiropody Society of	Dr. D. J. Desjardin, 14 Lisbon St., Lewiston, Maine Dr. Gerald Rosen, 132 Main St., Biddeford, Maine
Maryland Pedic Association Inc.	Dr. V. S. Cantrell, 310 S. Division St., Salisbury, Md. Dr. M. D. Fielding, 7942 Wisconsin Ave., Bethesda, Md.
Massachusetts Chiropody Association	Dr. Francis B. Powers, 19 Dale Ave., Gloucester, Mass. Dr. Sidney G. Holmes, 206 Huntington Ave., Boston, Mass.
Michigan Chiropody Association	Dr. C. A. Withey, 505 W. Ludington, Ludington, Mich. Mr. J. R. Dawson (Ex. Sec.), 19 N. Washington, Ypsilanti, Mich.
Minnesota Association of Chiropodists	Dr. P. H. Goulson, 2723 E. 38th St., Minneapolis, Minn. Dr. Richard E. Rice, 2014 Emerson Ave., No., Minneapolis, Minn.
Mississippi Society of Chiropodists, Inc.	Dr. L. P. Pier, 212 Carter Bldg., Hattiesburg, Miss. Dr. M. K. Upshaw, Jr., 511-13 Lamar Life Bldg., Jackson, Miss.
Missouri Association of Chiropodists	Dr. Robert Triplett, 121 S. Main St., Nevada, Mo. Dr. C. B. Footlick, 520-22, 12th & Walnut Bldg., Kansas City, Mo.
Montana Association of Chiropodists	Dr. Clayton Erickson, 222 Buffalo Block, Kalispell, Mont. Dr. Donald C. Scott, 315 Barber Lydiard Bldg., Great Falls, Mont.
Nebraska Association of Chiropodists	Dr. K. C. Nielsen, 640 City Natl. Bank Bldg., Omaha, Nebr. Dr. G. F. Heroman, 231 City Natl. Bank Bldg., Omaha, Nebr.
Nevada Association of Chiropodists	Dr. B. E. Edwards, Medico Dental Bldg., Reno, Nevada Dr. William A. Edwards, 150 Chestnut St., Reno, Nevada
New Hampshire Chiropody Association	Dr. Robert Cingolani, 3 Pleasant St., Concord, N. H. Dr. Tomy A. Levingston, 39 Pleasant St., Portsmouth, N. H.
New Jersey Chiropodists' Society	Dr. Milton E. Ashur, 681 Bergen Ave., Jersey City, N. J. Dr. Jack Horwitz, 463 High St., Burlington, N. J.
New Mexico Association of Chiropodists	Dr. E. Lenore Morris, 809 Silver St., S.W., Albuquerque, N. Mex. Dr. I. Michael Gross, 205-A Truman, N.E., Albuquerque, N. Mex.

New York, The Podiatry Society of the State of	Dr. Milton Wolfson, 5 E. 9th St., New York, N. Y. Mr. G. Hollander (Ex. Sec.), 353 W. 57th St., New York, N. Y.
North Carolina Chiropodists' Association	Dr. Paul Lyon, 110 Coast Line St., Rocky Mount, No. Car. Dr. D. J. Cameron, 16 E. 11th St., Roanoke Rapids, No. Car.
North Dakota Association of Chiropodists	Dr. R. F. Peterson, 14½ S. Third St., Grand Forks, No. Dak. Dr. E. B. Snuff, 611 1st Ave. No., Fargo, No. Dak.
Ohio Chiropodists Association	Dr. Sam Korman, 1229 Edison Bldg., Toledo, Ohio Mr. J. E. Farmer (Ex. Sec.), 30 E. Broad St., Columbus, Ohio
Oklahoma Chiropody Association	Dr. H. R. Johnson, 401 N. Beard St., Shawnee, Okla. Dr. Robert H. James, 113 S. Peters, Norman, Okla.
Oregon State Association of Chiropodists	Dr. W. O. Holderness, New Chamber of Commerce Bldg., Pendleton, Oregon Dr. George McCauley, 1700 N.E. 41st St., Portland, Oregon
Pennsylvania, Chiropody Society of	Dr. Charles D. Bossart, 822 Washington Rd., Pittsburgh, Pa. Dr. Arnold W. Newman, 5411 Chester Ave., Philadelphia, Pa.
Rhode Island Chiropodists' Society	Dr. W. P. Proulx, 8 St. John St., West Warwick, R. I. Dr. Samuel Kouffman, 290 Westminster St., Providence, R. I.
South Carolina Chiropody Association	Dr. Philip Cogen, 4 W. Court St., Greenville, So. Car. Dr. H. A. McAninch, 221 E. Main St., Spartanburg, So. Car.
South Dakota Association of Chiropodists	Dr. Helen D. Valansky, 1000 W. 3rd St., Sioux Falls, So. Dak. Dr. M. D. Scofield, 115 N. Main St., Sioux Falls, So. Dak.
Tennessee Chiropody Association	Dr. Ralph E. Meece, 707 High St., Columbia, Tenn. Dr. Stephen A. Lamm, 3355 Poplar Ave., Memphis, Tenn.
Texas, Chiropody Society of	Dr. G. Y. McMahan, 401-2 Dan Waggoner Bldg., Fort Worth, Texas Dr. Joseph R. Ordile, 1014 Electric Bldg., Fort Worth, Texas
Utah State Association of Chiropodists	Dr. L. C. Larsen, 701 Medical Arts Bldg., Salt Lake City, Utah. Dr. Paul W. Smith, 316 Darling Bldg., Salt Lake City, Utah
Vermont Chiropody Association	Dr. R. M. Coburn, South Main St., White River Junction, Vt. Dr. Regis P. Nolin, 14 Clarke St., Burlington, Vt.
Virginia Association of Chiropodists	Dr. Mortimer Cohen, 803 Cameron St., Alexandria, Va. Dr. Irwin T. Domsky, 2780 S. Randolph St., Arlington, Va.
Washington State Chiropody Association	Dr. F. L. Peck, 308 Security Bldg., Olympia, Wash. Dr. E. P. Erickson, 706-8 Mohawk Bldg., Spokane, Wash.
West Virginia, Chiropody Society of	Dr. J. J. Bates, 1501 West Virginia Bldg., Huntington, W. Va. Dr. Malcolm P. Iams, 519 Union Trust Bldg., Parkersburg, W. Va.
Wisconsin Society of Chiropodists	Dr. Ralph R. Wichgers, 2218 N. Third St., Milwaukee, Wis. Dr. E. M. Hatfield, 270 W. Broadway, Waukesha, Wis.
Wyoming Association of Chiropodists	Dr. Herbert C. Fair, 100 21st St., Cheyenne, Wyo. Dr. Duane NeuSchultz, 136 W. 22nd Ave., Torrington, Wyo.

Affiliated Organizations

N.A.C. Women's Auxiliary—Mrs. Miriam Shor, 4480 Crenshaw Blvd., Los Angeles, Calif.

Military Association of Chiropodists—Dr. C. R. Brantingham, 311 Security Bldg., Long Beach, Calif.

American College of Foot Surgeons—Dr. J. M. Kohl, 3959 N. Lincoln Ave., Chicago, Ill.

American Society of Chiropodical Roentgenology—Dr. J. W. Healy, 30 Court St., Westfield, Mass.

Chiropody Bibliographical Research Society—Dr. S. E. Reed, 425 Kresge Bldg., Des Moines, Iowa.

American College of Foot Orthopedists—Dr. P. R. Brachman, 25 E. Washington St., Chicago, Ill.

American Association of Hospital Chiropodists—Dr. J. W. Carby, 12th & Walnut Bldg., Kansas City, Mo.

FORTY-THIRD ANNUAL CONVENTION
NATIONAL ASSOCIATION OF CHIROPODISTS

Resolutions Adopted

No. 1. Whereas, Raymond E. Conway, D.S.C. of York, Pa., through his diligence, energy and devotion to the profession of chiropody, was greatly responsible for initial chiropody legislation in Pennsylvania in 1945, after more than thirty years of failure, and,
Whereas, through his further efforts and inspiration more favorable chiropody legislation was procured in 1947 and 1951, and,
Whereas, Dr. Conway has retired from practice through illness,
Be it Resolved, that Raymond E. Conway, D.S.C. of York, Pa., has rendered distinguished service to the profession of chiropody,
Be it Further Resolved, that Raymond E. Conway, D.S.C. of York, Pa., be granted Life Membership in the National Association of Chiropodists.

Submitted by
Chiropody Society of Pennsylvania

No. 2. Whereas, sufficient instances have occurred where chiropody organizations which are not affiliated with the National Association of Chiropodists have requested members of the N.A.C. to appear as speakers at their meetings,
Therefore, Be It Resolved that no member of the N.A.C. may appear as a speaker on a program of a chiropody group which does not have N.A.C. membership as a prerequisite for admission to this group and/or allows non-members of the N.A.C. to attend its lectures or scientific sessions;
Be It Further Resolved, that any member of the N.A.C. which appears as a speaker at such a non-affiliated chiropodical group, be subject to changes by the N.A.C.

Submitted by
Iowa State Chiropody Association

No. 5. Whereas, the profession of chiropody has not definitely set forth a definition of what constitutes the practice of chiropdy;
Whereas, a definition would be of great value in dealing with insurance companies, serve as a guide in legislative effort, aid in recruitment of students, simplify and guide public relations' efforts, serve to allay fears of encroachment by chiropody into other fields of medicine, thereby improving relations with general medicine, make it possible for our colleges to set up and maintain an adequate curriculum;
Therefore, Be It Resolved, that the President of the N.A.C. appoint a committee of five members, who are leaders in the profession, to write a definition of the practice of chiropody, their definition to be discussed and submitted for approval at the 1956 House of Delegates.

Submitted by Illinois Chiropody Society

No. 11. Whereas, the value of the work done by Mr. Wilfred E. Belleau and the vast amount of public education which has resulted from his directing these materials to social groups, libraries, schools and universities is inestimable,
Therefore, Be It Resolved, that Wilfred E. Belleau, Milwaukee, Wisconsin, in recognition of his work for chiropody through the media of his films and pamphlets, be granted an Honorary Membership in the National Association of Chiropodists.

Submitted by
Wisconsin Society of Chiropodists

No. 12. Resolved, that the following members of the Wisconsin Society of Chiropodists be submitted for Life Membership in the National Association of Chiropodists:

Dr. Victor Dobrient
Milwaukee, Wisconsin
Dr. Phillip Hager
Milwaukee, Wisconsin
Dr. Joseph N. Roder
Milwaukee, Wisconsin

Submitted by
Wisconsin Society of Chiropodists

No. 13. Resolved, that the following member of the Podiatry Society of the State of New York be submitted for Life Membership in the National Association of Chiropodists:

Dr. Jules Becker
Olean, New York

Submitted by
Podiatry Society of the State of New York

No. 16. Whereas, Dr. William J. Stickel, devoted, dedicated and, in effect, even gave his life for this our organization and profession, and
Whereas, during his lifetime he discussed with many individuals the establishment of a National Library in the headquarters building of the National Association of Chiropodists, therefore be it
Resolved, that this House of Delegates direct the President with the advice and consent of the Executive Council to appoint a committee to consider ways and means and solicit funds for the realization of such in the near future;
Be It Further Resolved, that the Executive Council commission an artist to paint a portrait of Dr. Stickel to be placed in the library.

Submitted by Dr. Turchin
Chiropodical Bibliographical Research Society
Dr. Gigerich
Dr. Gross

No. 17. Whereas, the N.A.C. Hospital and Medical Relations Committee is a most important Committee, and
Whereas, it requires constant liaison and integration of activities between it and the same committees of the affiliated state societies,
Be It Resolved, that the N.A.C. Committee on Medical and Hospital Relations automatically include the chairmen of the same committees of the affiliated state societies.

Submitted by
Chiropody Society of Pennsylvania

No. 18. Whereas, Dr. Adam Hall of Philadelphia, Pennsylvania, has completed more than fifty years of active practice of chiropody, and
Whereas, in the many years he has served the profession as a practitioner, teacher, and as President of the State Society, he has been an inspiration to his former students throughout the country, and
Whereas, Dr. Hall has retired from active practice,
Be It Resolved, that Dr. Adam Hall of Philadelphia be granted Life Membership in the N.A.C.

Submitted by
Chiropody Society of Pennsylvania

No. 20. Whereas, Karl Fuller of Detroit, Michigan has served his profession with diligence, energy and devotion, and
Whereas, Dr. Fuller has retired from practice due to illness,
Be It Resolved, that Karl Fuller, D.S.C. of Detroit be granted Life Membership in the N.A.C.

Submitted by Dr. Kaplan

No. 21. Whereas, the Massachusetts Chiropody Association and the Alabama Association of Chiropodists, being affiliated state societies of the N.A.C., are confronted with a problem which jeopardizes their status in connection with recognition in Workmen's Compensation, narcotic privileges, Old Age Assistance and Medical Care Plans, etc., and because this situation is present, we petition this House of Delegates for relief in the following manner:
Be It Resolved, that the Council of Education be empowered to review the Essentials of Classification to permit the Massachusetts Chiropody Association and the Alabama Association of Chiropodists to sponsor a post-graduate course for its members leading to a doctorate degree, which shall not in any case be used for the purpose of obtaining a license to practice chiropody, and provided further that this permission does not exceed beyond one year.

Submitted by
Massachusetts Chiropody Association and the
Alabama Association of Chiropodists

No. 23. Be It Resolved, that N.A.C.S. members be admitted to National Conventions without a charge for registration fee.

Submitted by Student Organization Committee
Dr. Edward Tarara
Dr. Marvin Marr

No. 27. Be It Resolved, that the House of Delegates be apportioned by the number of paid-up members in the National Association of Chiropodists as of August first of the year of the convention.

Submitted by Credentials Committee of 1955
Dr. A. J. Deeley
Dr. Edward H. Buchbinder
Dr. Morris Haas

No. 28. Resolved, that the House of Delegates instruct the Executive Council to negotiate with Dr. Rubin a two-year contract, with a three-year option for his future services, as Secretary and Editor for The National Association of Chiropodists. Said option need not be exercised upon simple majority vote of the Executive Council. And it is further resolved that said contract will stipulate that the Secretary and Editor will be the senior and responsible appointive administrative officer for this Association.

No. 30. Whereas, the annual awards contest was originally conceived by our late Executive Secretary, and
Whereas, the National Association of Chiropodists has seen fit to carry on this project for many years, and
Whereas, there is every likelihood that the annual award contest will be perpetuated, therefore,
Be It Resolved, that the annual awards contest be designated as the "William J. Stickel Annual Awards for Research in Chiropody."

Submitted by
Dr. Harry W. Weinerman

No. 31. Whereas, chiropody needs more students in our colleges, if it is to survive as a profession, therefore,
Be It Resolved, that each delegate request his society to appoint an energetic vocational guidance chairman who shall be directed to contact the N.A.C. Vocational Guidance Committee as soon as possible.

Submitted by
Dr. E. E. Thompson

No. 32. Whereas, the educational system of our country is being directed by a modern group of dynamic leaders and,
Whereas, career guidance has taken its rightful place as an integral part of the system with competent men and women directing it,
Be It Resolved, that each state society be requested to withdraw the antiquated copies of "Chiropody as a Career" from their schools and libraries and replace them with the newly revised monograph "Chiropody as a Career."

Submitted by
Dr. E. E. Thompson

No. 33. Resolved, that we thank our Insurance Counselor, Mr. A. Jonas Berg for his helpful guidance in developing our National Insurance Program. The recent improvements make it of great benefit to our members.

Submitted by
Dr. Sidney Hirschberg

No. 4. Whereas, it has been the custom of the National Association of Chiropodists to confer Honorary Membership upon distinguished practitioners of any recognized branch of medicine, or any person who has performed a distinguished service to the profession, and

Whereas, in the past there has not been any specific provision for the manner in which such individuals have been notified of their election to such Honorary Membership, and

Whereas, no provision has been made to provide for the presentation of a suitable certificate to indicate such Honorary Membership in the National Association of Chiropodists, therefore

Be It Resolved, that henceforth, when any individual is elected to Honorary Membership in the National Association of Chiropodists, it shall be the duty of the Executive Secretary to notify such individual by letter, as soon as possible after such election to Honorary Membership, and further

Be It Resolved, that a suitable engraved certificate shall be provided by the National Association of Chiropodists to be presented to such Honorary Members on a suitable occasion by an officer or representative of the National Association of Chiropodists, an Affiliated State Society or a Component Division thereof, and further

Be It Resolved, that the provisions of this Resolution shall be incorporated as an Amendment to the Bylaws of the National Association of Chiropodists, Chapter 1—Membership, Sec. 2, to be added after the last paragraph on page 9, this to be tantamount to the required ninety day notice for such action by the House of Delegates meeting in 1956.

Submitted by Dr. Liss

Referred to Bylaws Committee

No. 7. In recognition of the serious problem which affects all colleges of chiropody-podiatry in that enrollments have dropped at an alarming rate,

Be It Resolved, that a sum of money be appropriated for the purposes of subsidizing programs to increase enrollment in those colleges.

This money shall be made available on a proportionate basis to those state societies which present acceptable programs and budgets to the Executive Committee of the National Association of Chiropodists.

Submitted by

Podiatry Society of the State of New York

Referred to Budget Committee

No. 10. Whereas, the Nomenclature Committee of the A.C.F.O. has been working in conjunction with the Nomenclature Committee of the N.A.C. to complete a program leading towards a standardization of terminology in chiropody, and

Whereas, this work which has been a matter of record on the

agenda of the 1954 House of Delegates, has been accomplished without any financial help from the N.A.C., and
Whereas, the sum of $1,000.00 a year for the next five years will be needed to complete this program within the allotted time limit,
Therefore, Be It Resolved, that the sum of $1,000.00 be allotted to the Nomenclature Committee to carry out its program for the coming year.

Submitted by Dr. Brachman
Referred to Budget Committee

No. 14. Whereas, the expanding activities of the Visual Education Committee which now includes production of sound film strips, exhibits, motion pictures, lending library of films and slides, tape recordings, etc., organizations of national repute are recognizing this committee as a potential producer of teaching aids for schools, industry and hospitals and are interested in their distribution; and
Whereas, it has become increasingly important to have sufficient funds allocated to this committee in order that models of the most advanced type of visual aids and exhibits covering "Child Foot Care," "Diabetic Foot Care," "Industrial Foot Care," and "Chiropody Care in Hospitals" be developed, thereby encouraging interested national organizations to underwrite these programs;
Therefore, Be It Resolved, that an allocation of $5,000.00 be made for the production of the above-mentioned material.

Submitted by Dr. Shapiro
Referred to Budget Committee

No. 15. Resolved, that the usual honorarium be given to retiring President Gigerich.

Submitted by Executive Committee
Referred to Budget Committee

No. 19. Resolved, that Life Membership be conferred on Dr. F. F. Coblenz of Fayetteville, N. C.

Submitted by Dr. Davis
Referred to Executive Council

No. 22. Whereas, the National Association of Chiropody Students (N.A.C.S.), being an affiliated body of the N.A.C.;
Whereas, the student group is in its first year of organization and is an important part of the family of the N.A.C., and
Whereas, the fruits of this organization shall reflect in the membership of the N.A.C.;
Be It Resolved, that the sum of Five Hundred Dollars ($500.00) be allotted to the N.A.C.S.

Submitted by E. Tarara and M. D. Marr
Referred to the Budget Committee

No. 24. Whereas, certain features of the N.A.C. Basic Group Plan of Health and Accident Insurance offered to member chiropodists have seemingly been violated, viz. "Once insured, your coverage can never be restricted or ridered for recurrent disability,

nor can it be terminated by the Company while you pay your premium as long as the group plan is in force . . . until you retire or reach age 70,"

Be It Resolved, that any such case be investigated and that members with valid complaints receive assistance in bringing this matter to the attention of the N.A.C., the underwriting company and the Insurance Commission of the State of California and Commerce Department of the United States Government.

Submitted by
Dr. Harold M. Hogan
Dr. Paul L. Young
Referred to Office of the Secretary

No. 25. Be It Resolved, that this House of Delegates change its time of annual meeting from August to October, and that the passage of this resolution shall constitute sufficient notice as a proposed amendment to the constitution to be submitted to the 1956 House of Delegates.

Submitted by
Dr. Floyd Frost
Referred to Executive Council

No. 26. Resolved, that an amount equivalent to the annual depreciation be set aside from the general fund or bank account and placed in a Federally Insured Building and Loan Association. Such a reserve will enable the Association to make replacements when the need arises, without disturbing funds for current operation.

Submitted by
Dr. Gigerich
Referred to Executive Council

No. 29. Whereas, there is a shortage of medical services manpower, and
Whereas, this Association recognizes its responsibility with reference to foot health care, and
Whereas, the feet of our armed forces must have the finest medical care, and
Whereas, the three armed services have provisions whereby chiropodists can be commissioned in the Medical Service Corps, therefore be it
Resolved, that the members of this Association voluntarily make themselves available for inclusion under existing laws regulating the registration, classification and induction of certain medical, dental and allied specialist categories, in a commissioned status.

Submitted by
Nebraska Association of Chiropodists
Referred to the State Societies

Resolutions 3, 6, 8, 9, withdrawn.

THEORY, PHYSIOLOGY AND TREATMENT OF FOOT IMBALANCE

(Continued from Page 30)

h. Pain on palpitation at articulation of first metatarsal cuneiform joint;
i. Ankles turn lateralward easily with resultant sprains.

Once again we find a mobile foot structure encased in non-yielding footwear and functioning on a non-conforming surface. The intermittent irritation and function occurs both medially and laterally as the foot tries to transfer the body weight to the supporting structure. The failure to have a buttress pad to stop the forward thrust of the foot contributes along with the direct trauma, irritation and callosity on the plantar area, especially anterior to the metatarsals.

Here we see the result of the mobility of the foot in its relation with unyielding forces bringing about the severe symptoms due to the intermittent irritation. It is no wonder that when a metatarsal pad is added to this foot, the result is a greater degree of imbalance and an exaggerated accumulation or degree of symptoms. The metatarsal pad is contraindicated on the foot with biplane imbalance, and yet is the most widely used gadget for the symptoms created by this imbalance. Fortunately, most of the metatarsal pads are placed or moved into the concavity created by the shafts of the metatarsals and tarsus bones. The pad then becomes a breaker or filler pad and acts similar to a mid-tarsal balance pad.

We will not discuss the symptoms for they can be traced in a similar pattern as described under Lateral Imbalance.

The shoe sole shows a heavy wear pattern under the second, third, and fourth metatarsal areas (Fig. 4A). There is an absence of wear along the medial and lateral borders since there is no weight transfer through these areas. If there is an absence of wear at the break of the sole, the foot is not transferring weight through the mid-tarsal region and the patient most likely has a strained plantar fascia, a clear functional violation of Keith's Law. The lack of weight transfer through the medial and lateral sides clearly indicates the severe trauma at the second and third and sometimes the fourth metatarsal areas. It is no wonder the pain is so severe at the metatarsalphalangeal area. The important thing to accomplish in the padding of the biplane foot is as follows:

1. Lock the mobile first joint at the tarsal articulation;
2. Transfer weight through the whole anterior area of the foot;
3. Stop the forward thrust of the foot during propulsion;
4. Allow the toes their proper function of propulsion and grasping;
5. Restore the prehensile ability of the hallux if the hallux is in the valgus;
6. Eliminate any violations of Keith's Law through the mid-tarsal area.

Pads are placed at the medial and lateral sides of the forefoot. The medial pad is placed from the interspace between the first and second metatarsal areas, and anterior to the metatarsal heads, back to, and slightly past, the first metatarsocuneiform joint. This is to lock

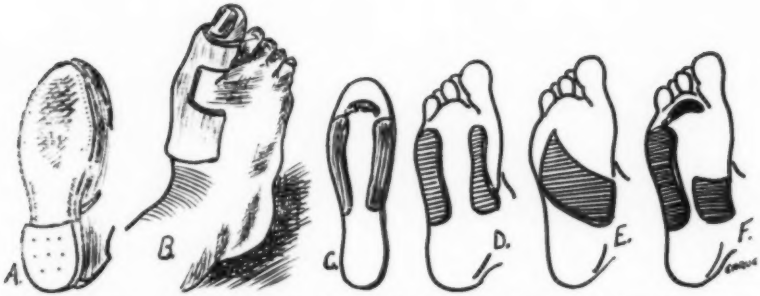


Fig. 4. Biplane Imbalance. A. Shoe Wear; B. Prehensile Hallux Strap; C. Insole Padding; D., E., F., Various Paddings.

the first metatarso-cuneiform joint of the mobile first segment and to take some of the function off the thickened and abused second metatarsal, along with transferring the medial weight to the supporting structure. The lateral pad is usually placed under the fourth and fifth metatarsals, slightly anterior to the metatarsal heads and back and beyond to their base articulation (Fig. 4D). If a pes cavus or strained plantar fascia exists, then a mid-tarsal filler pad is applied (Fig. 4E). If the buttress area shows some swelling, a buttress pad is added in line with the contour of the metatarsals: 2 through 5 and placed under the shafts of the proximal phalanges (Fig. 4F). Variations of the pad are illustrated (Figs. 4C-D-E-F).

To bring the prehensile hallux into function, a three-inch wide strip of elastic adhesive tape is cut about four inches long. Cut a ½-inch T as illustrated in Fig. 4B. The ½-inch strip is bound around the proximal phalanx of the large toe and then the remainder of elastic adhesive is shaped to the hallux which is put into a position of varus as permitted by the existing joint —do not forcibly overcorrect.

To stop the forward thrust of the foot in propulsion, the buttress pad placed in the shoe is 'the most satisfactory as it is immobile and serves its purpose without restrictions. However, the use of the pad directly on the foot has proven successful as the additional pressure of the pad on the walking surface acts as a buttress to stop the forward thrust (Fig. 4C).

Shoe therapy and appliance therapy are similar to foot paddings, Slip pads and removable buttress pads may be used. Refer to illustrations for various pads. A slip pad is made by placing the balance pads on the foot and placing a piece of moleskin covering the pads, anterior to the toes. The pads, adhering to the moleskin, are then removed from the foot. The other side is now covered with moleskin and shaped to slip over one or two toes.

The Medial Imbalanced Foot

The Medial Imbalanced Foot (Fig. A2) is one of the rarer basic imbalances. Dr. E. Justin Love of Washington, D. C., classified this condition as a Pseudo Imbalance where the foot, because of some traumatic injury, creates a new functional habit pattern foreign to the genetic pattern of the foot. Investigation by the author substantiates Dr. Love's classification, as almost every case of medial imbal-

ance has shown a history of trauma at the articulations of the hallux or at some area close to the hallux area.

The weight-transferring action of the Medial Imbalanced Foot is initiated at the heel and continues to the lateral side, and then to the medial side. At the medial side the foot cannot receive the transfer of weight to the supporting structures and thus the greatest thrust of force is at the base of the fifth metatarsal at the plantar surface. This foot shows a heavy neurovascular, or fibro-vascular growth at the inferior surface of the fifth metatarsal head. At the articulation of the hallux and first metatarsal, there are bony changes on the dorsum, resulting in a Hallux Limitus, or a Hallux Rigidus. Sometimes a tyloma or neurovascular growth is present at the medial side of the articular area of the phalanges of the hallux.

The Medially Imbalanced Foot illustrates the muscular action and control present at the hallux area. As a result of trauma to the hallux, the musculature of the hallux area is able to limit the function of the first joint. The patient does not need the hallux for weight transfer or propulsion and therefore functions with the four lesser toes, thus adopting a lateral transfer of weight. With any attempt to function normally, the hallux exhibits pain, and the patient is consequently content to continue in the newly adopted gait. In time there is a compensation of the tissues and functions of the hallux joint resulting in a true medial imbalance.

The shoe wear pattern at the sole shows the heavy wear at the lateral side with no wear at the medial border (Fig. 5A).

Treatment consists of a pad of proper thickness placed along the shaft of the first metatarsal and anterior to the head of the first metatarsal (Fig. 5C). This is the only condition in which the pad is put directly under the sesamoid. As this area does not touch the supporting structure, an attempt is made to transfer some of the weight through the first metatarsal area. It differs from the medial imbalance of the biplane foot in that the medial side of the biplane imbalanced foot often reaches the supporting structure, but the mobile first metatarsocuneiform joint permits the first segment to be moved upward by the opposing forces of the supporting structure. On the Medial Imbalanced Foot this situation does not exist as the medial area does not reach the supporting structure.

The pathology under the fifth metatarsal is treated locally with all shielding as thin as possible.

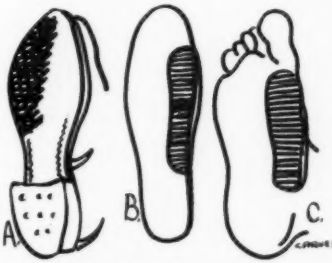


Fig. 5. Medial Imbalance. A. Shoe Wear Lateral Side; B. Insole Pad; C. Medial Pad.

Shoe therapy or appliance therapy, like the foot padding, is along the medial side of the shoe or appliance (Fig. 5B). A slipover pad has proved successful in several cases.

The Mid-Metatarsal Imbalanced Foot

The Mid-Metatarsal Imbalanced Foot (Fig. 2D) is one of the less common basic types. Here we find a foot in which weight transfer is accomplished from the heel and tarsal area to the first and fifth metatarsal heads with no weight

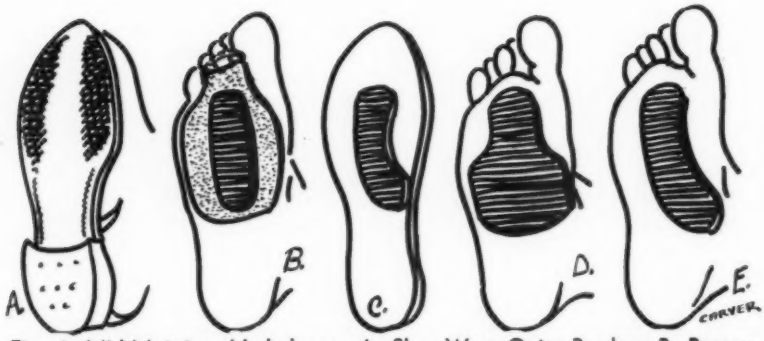


Fig. 6. Mid-Metatarsal Imbalance. A. Shoe Wear-Outer Borders; B. Removable Mid-Met Pad; C. Insole Padding; D. & E. Mid-Metatarsal Pads.

transfer through the second, third, and fourth metatarsal heads. It is more common among men and rarely seen in women. Usually the men have a standing occupation similar to cooks, barbers, bakers, beauticians, etc.

One or more of the following symptoms appear on the Mid-Metatarsal Imbalanced Foot:

a. Deep tyloma under the head of the first and fifth metatarsals;
b. Spasticity of the second, third, and fourth toes which are in a dorsiflexed position;
c. Pes cavus foot;
d. Tyloma along the medial side of the heel.

There are rarely any helomata and bursae on the toes of this type of foot as there is no medial to lateral, or lateral to medial, motion of the foot. The muscles of the toes being spastic, there is no forward motion of the toes. The result is that the first and fifth metatarsals, besides being the recipients of the opposing pressures, are also used to propel the foot, a function they cannot perform adequately as they do not have the proper muscles or architecture.

The patient quite often complains of severe night cramps which probably are caused by an over-fatigue of the leg muscles. The shoe sole shows a marked degree of wear at the medial and lateral borders with a definite absence of wear at the middle sole area. There are "spot-wear" points on the sole of the shoe and an absence of wear at the break of the sole and shank area (Fig. 6A).

Here we have a foot which, if structure were the criterion, should be an excellently functioning foot. The metatarsal pattern with its deep concavity is anatomically excellent. The height of the arch is high and non-mobile. However, in actual fact it functions extremely poorly—the high rigid arch is almost never in weight bearing contact—the metatarsals only making contact on the first and fifth heads with the second, third, and fourth never in ground contact. The spastic toes can never form a buttress with the metatarsals. The sum result is a constant violation of Keith's Law, and a spastic lower extremity capable of very little function. This foot, more than any other type, should convince the practitioner of the vagueness of the structural approach.

The basic treatment of this type of foot is to transfer weight through all metatarsal heads and through toe action, "break-up" the spasticity

of the extensor and flexor groups of muscles. An attempt must be made to eliminate the constant violation of Keith's Law at the ligaments of the tarsal region, as the pes cavus tends to prohibit the transfer of weight through the tarsal region to a conforming supporting structure.

The pad is placed under and beyond the second, third, and fourth metatarsals, and extending posteriorly to the tarsal region, including the bones and articulations of the cuneiforms, navicular, talus, and sometimes the cuboid. The first and fifth metatarsal heads are bypassed and "cutouts" can be used for this purpose. (Fig. 6D-E). The pad can be referred to as an extended double dancers or double sesamoid pad. The thickness of the pad is of course dependent on the depth or degree of imbalance. It is important that the pad be extended anterior to the metataral heads so that the foot can create its own crest to insure good toe motion and prevent the forward thrust of the foot in the shoe.

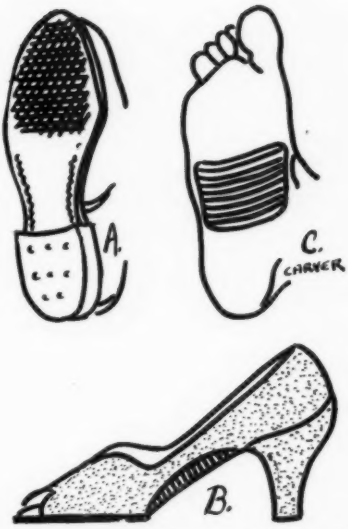
A similar pad or appliance can be used in the shoe when it is desired (Fig. 6B-C).

Mid-Tarsal Imbalance

The Mid-Tarsal Imbalanced Foot is usually found in combination with some forefoot imbalance, but can and is found to exist without any forefoot symptoms.

The author believes that this is the condition which is most oten referred to as a "weak foot" or "strained foot."

As brought out previously, the tarsal bones are a compact group of squatty bones with extremely limited motions. They are bound together by interosseous ligaments and the plantar surfaces of the whole foot is covered by the fascia, a ligamentous structure. Mid-Tarsal Imbalance occurs mostly on



A. Shoe Wear Pattern; B. Filler Pad in Shoe; C. Mid-Tarsal Pad.

the standing position, and therefore affects many patients whose job or duties necessitate long periods of standing.

Pain is concentrated at the tarsal articulation and often in the plantar fascia, especially at the origin of the fascia, resulting in heel pain or bursitis. The pain at the tarsal joint area is created by the inability of the tarsal region to conform to the supporting structure. As a result, the ligamentous structures must take up the function of resistance—there is, of course, a violation of Keith's Law, and the resultant inflammation at the articular surfaces and ligamentous tissue.

The shoe shows a lack of wear at the break of the sole and at the forward aspect of the shank (Fig. 7A). This is common in the pes cavus type foot, but could, and does occur, on the spastic planus type foot.

Treatment consists of immobili-

zation by strapping, or padding. The pad is placed across the mid-tarsal area to limit the downward movement of the tarsal bones (Fig. 7C). Inasmuch as mid-tarsal imbalance usually occurs with some forefoot imbalance, the forefoot pads are extended further back to include the mid-tarsal areas.

Shoe or appliance therapy is accomplished by creating a "filler pad" or "break pad" on the inner surface of the shoe to transfer weight downward through the shoe to the supporting structure (Fig. 7B).

Pseudo-Imbalances

As explained in Medial Imbalance, imbalances can be caused by a functional habit, controlled or created by the patient due to some injury or outside factor such as a job at a press using a certain portion of the foot. The pseudo-imbalances are also created by the patient who has a basic imbalanced foot and chooses to function forcibly in a position more comfortable to the area. For instance, a patient can have a basic Biplane Imbalanced forefoot with traumatic pain at the second and third metatarsal areas. She may assume a method of controlled gait, placing the weight through the first metatarsal area. With constant abuse there is a swelling at the first head. This gives the symptoms of a sesamoiditis and the foot assumes a position of lateral imbalance. With treatment and padding the foot eventually resolves itself to its genetic structural shape of Biplane Imbalance. The follow-up treatments must then be on a basis of Biplane Imbalance.

It behooves the practitioner to follow the progression of any of the cases treated to observe any pseudo imbalances. Variations of the symptoms of the basic imbalances are often the result of pseudo imbalances. Let us assume that we have a basic Mid-Metatarsal Imbalance. The symptoms are very definite in this type of foot. Tyloma miliare, vascular or fibrous, under the first and fifth and spastic lesser toes. In time the miliare on the lateral side may become unusually painful and the patient will adopt a walk whereby the fifth does not come in contact with the walking surface. As a result there develops a Tailor's Bunion, a symptom foreign to a basic Mid-Metatarsal Imbalance. When pathology is treated and the foot balanced, the Tailor's Bunion disappears quickly and the foot resolve itself into its basic structural imbalance. The foot should then be treated for its basic imbalance.

Miscellaneous Imbalances

Forefoot imbalances are not limited to the imbalances described. The foot does go into a great variety of imbalances which do not warrant individual discussion.

Reference to the basic work will permit the practitioner to determine the course of treatment and the positioning of the pads that will afford the individual foot the relief required.

One of the more common of the miscellaneous imbalances in the forefoot is where the weight is transferred through the second and fourth metatarsal. Here the foot would be treated similar to the biplane foot with additional padding under the third metatarsal.

Summary

Applicable physical and physiological principles related to functioning of the foot have been discussed as they apply to the concept of balance and imbalance in the forefoot. The importance of recognizing function, and existing structure, as the criterion for treatment has been pointed out. The proposition that normalcy in foot me-

chanics has reference to capacity for function and is individualistic has been elucidated. The clinical entities of imbalance have been described and therapy has been suggested. The major entities described are Medial, Lateral, Biplane, Mid-Metatarsal and Mid-Tarsal Imbalances.

Acknowledgements

The study of imbalance of the foot is a new field and the profession of chiropody deserves credit for its development. To Ralph W. Dye for bringing out the all-important approach to a functional foot over the structural foot; to Drs. Weinerman and Schreiber for the first interpretation of forefoot imbalances. These two men have been the leading proponents of this interpretation of foot disorders. They opened, based on Dye's work, the original evaluations and determination of functional foot imbalances. To the late Dr. Ben Levy for his valuable work and personal explanation of the buttress and its importance to the functional foot.

Dale W. Austin in the Clinical Journal in 1939 did suspect forefoot imbalances as a factor for foot disorders but here he based the forefoot deviations as being caused by some rear foot pathology, whereas, Schreiber and Weinerman based forefoot imbalances as a causative factor to rear foot deviations such as the Helbing Sign. The nomenclature and classification are also based on the original work of Weinerman and Schreiber.

Credit must also be given to the many men whose practical application of these theories have contributed to a better understanding of balance therapy.

A sincere credit to my good wife, Joan, whose patience and understanding during the endless discussions at our home were most helpful.

818 18th St., N. W.

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SERVICE

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Sidney Smith.

A NEW DRESSING FOR ROUTINE PALLIATIVE WORK

DAVID BLUM, D.S.C.

Detriot, Mich.

WITH office overhead what it is, it is believed most chiropodists will welcome any short cut which will increase efficiency and reduce the over-all cost of everyday staples used in the office, so long as such short cuts do not detract from the quality of professional service.

It is believed that a new, more efficient and more economical dressing for use after routine palliation of excrescences has been developed. The technique is as follows:

1. Reduce the heloma or tyloma in the usual manner.
2. Wash the area with alcohol, and pat dry.
3. Paint the lesion with two per cent aqueous solution of gentian violet. Allow to air dry.
4. Apply a small quantity of Silicote Ointment.*
5. Apply two layers of Webril† bandage. These pieces of Webril should be circular, and slightly larger than the excrescence.
6. Cover the whole with moleskin.

In this office, a chief virtue of this dressing is that the Webril and moleskin pads are prepared in quantity, in various sizes, by the assistant, during otherwise unoccupied moments, and stocked in the operator's cabinet. With a prepared supply thus at hand, the operator is saved much of the time that would be required to cut pads for individual patients.

Such pads have been removed from patients (even some who habitually showered daily) as long as a month after original application, with the ointment still present and apparently effective. In these cases the excrescence is usually found to be soft, and exhibiting very little regrowth, and the patient usually remarks that the dressing is still comfortable. This dressing also eliminates the need for half-moon or shoulder pads.

It has been found that this Silicote Ointment is sometimes very helpful in cases of varicose ulcer, after drainage has subsided. Here, the procedure is to paint the ulcer with two per cent aqueous solution of gentian violet. Silicote Ointment is then spread on paraffin gauze, which is applied to the ulcer before application of Unna's paste boot. Approximately forty per cent of varicose ulcers thus treated to date have shown improvement. The number of varicose ulcers treated has not yet been large enough to justify conclusions, and possibly other chiropodists who may have been working on treatment of peripheral vascular lesions would be willing to coordinate efforts along this line. The writer would be glad to hear from any colleagues who may be interested.

15930 Livernois Ave.

*Arnar-Stone Laboratories.
†Bauer & Black.

CORRECTION NOTICE

ON PAGE 35, line 31, of Dr. Wright's article on X-Ray Therapy in Chiropody, October 1955, the 75% should read (75 r unfiltered once a week).

REPORT OF THE N.A.C. WOMEN'S AUXILIARY

THE Fourteenth Annual Meeting of the Women's Auxiliary to the National Association of Chiropodists was held at the Statler Hotel in Cleveland, Ohio, August 12-17, 1955.

The National Officers were elected as follows:

President, Mrs. Robert Shor (Calif.)
First Vice President, Mrs. Richard C. Pearce (Mo.)
Second Vice President, Mrs. Lon Cooper (Ohio)
Secretary-Treasurer, Mrs. Cleotha Parham (Okla.)

Mrs. E. W. Dobbs (Texas) was reappointed Public Relations Chairman; Mrs. S. O. Burgess (Mich.) was reappointed Historian; Mrs. Palmer H. Goulson (Minn.) was appointed Vocational Guidance Chairman; Mrs. Lon Cooper (Ohio) will assume the duties of Organization Chairman and Mrs. R. C. Peace (Mo.) is Membership Chairman.

The business meetings were conducted under the direction of the President, Mrs. J. B. Collet.

A sincere vote of thanks is extended to the Northwestern Zone, Ohio, the convention committee, and all the women who participated in bringing to us the fine program we enjoyed. The banquet and dance following were enjoyed equally as well under the capable direction of the Ohio Association of Chiropodists.

We are grateful to Dr. Walter C. Gigerich, retiring President of the N.A.C., and Dr. Ralph Fowler, newly elected President of the N.A.C., for their inspiring messages stressing the importance of the Women's Auxiliary in furthering public relations for chiropody.

The annual reports of auxiliary activities and accomplishments were stimulating, and they must be commended for their splendid efforts in raising funds for purchasing needy equipment and furnishing rooms in worthy hospitals and clinics, presenting handmade, stuffed animals to handicapped children in various institutions, serving with the chiropodists at workshops, symposiums, acting as hostesses and secretaries in the industrial foot health surveys and student procurement programs. The newspaper coverage for chiropody for the year was gratifying, thanks to the publicity chairmen and reporters.

If all of us take into consideration that their job, no matter how small or menial it may seem in their auxiliary, helps in stimulating our main objective, better public relations for the profession. May this year be even more successful in attaining our goals.

The following motions were introduced and accepted:

1. That the National Bulletin be continued and printed as often as sufficient auxiliary news, reports, and articles of scientific nature are submitted.

2. That a pamphlet be compiled for members and non-members to include the purposes of the National Auxiliary, facts on organization, etc.

3. That each auxiliary contribute $50.00 on or before the end of 1955 to facilitate the printing of the first 100,000 copies of the booklet, "Life's Foundation," the National project.

4. That all past presidents of the National Auxiliary be presented with a pin at the annual convention in 1956.

5. That dues to the National Auxiliary be increased to $2.00 per annum, commencing May 1956.

6. Resolution to be added to the National Constitution and Bylaws

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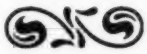

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to the effect that representation for each auxiliary to the National Convention shall be based on one delegate for each 25 members in good standing or for any fraction thereof, the delegate or alternate duly authorized and elected from the membership of their respective state.

The National Public Relations Project cannot be overemphasized. To familiarize each auxiliary with the significance of the booklet, a draft of its contents is being sent to the secretary of each auxiliary to be shown and read at a meeting. This well-written and cleverly illustrated booklet will be welcomed by all parents of children from six months to sixty years. The medium of distribution will be through the newspaper clippings of birth registrations which each member is accumulating. The publication will also be distributed to hospitals, clinics, libraries, doctors' offices, etc. Can you conceive a more desirable means of establishing better relations for chiropody on a national scale?

In the capacity of your National President in which I am both honored and proud, I personally and urgently appeal to each and every auxiliary to back this worthy undertaking 100%.

The past two years as your secretary-treasurer have been a rewarding experience. It is my fervent wish and earnest desire as your President to see our objectives fulfilled. The success of this depends upon the continued correlation of efforts between the local, state, and National Auxiliary. Your National officers are elected to serve you and we deem it a privilege to assist you in any way we can. Let us hear from you!

MIRIAM SHOR, President
N.A.C. Women's Auxiliary

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SPECIALIZATION IN MEDICINE: WHAT IS ORTHOPAEDIC SURGERY?

THE borders of most specialties are not clearly defined, and orthopaedic surgery is no exception to this. Constant changes in the scope of a specialty will be noted, just as the individuals in that specialty increase their knowledge and skill in the care of certain conditions which may be called borderline. As medical knowledge advances by the development of scientific facts, specialties will ultimately tend to become more stabilized.

The author believes that, while specialties develop and specialists become more expert in their chosen fields, the need for cooperative effort by specialists in treating many individuals becomes more evident. Nothing is more pitiful than the sight of a highly specialized individual facing some problem entirely outside the limits of his specialty.

Borderline specialties will assume certain phases of the care of patients, which have heretofore been regarded as the work of orthopaedic surgeons. Such work as physical therapy is being taken over by specialists in physical medicine, and will be taken over to an increasing extent. In some areas the supervision of brace-making is being assumed by those other than orthopaedic surgeons; and it is the belief of the author that many practicing this specialty could profit by a better understanding of the importance and the methods of brace-making. Rehabilitation, which was started by orthopaedic surgeons in World War I, may become another specialty.

R. K. Ghormley: J. Bone & Joint Surg., July, 1949.

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THE FILM "CHIROPODY AS A CAREER" AS A PUBLIC RELATIONS MEDIUM

THE kodachrome sound film, "Chiropody as a Career," is an excellent public relations medium.

The titles state that the film was produced by a nationally known occupational guidance author, that part of the film was photographed at the University of Wisconsin, and that two top names, one in guidance and the other in audio-visual aids, were collaborators. The former is now president of the National Audio-Visual Aids Association.

The script contains many statements that will correct misinformation. For instance, it is stated that one year of college work is required for entrance and that many students have had two or more years. Moreover, it is mentioned that the colleges teach the basic sciences, orthopedic surgery, physical medicine which includes the use of mechanical and electrical apparatus, x-ray, materia medica and therapeutics, clinical practice, and psychology.

Furthermore, it is said that four years of study are required for graduation.

The importance of the occupation is emphasized by the statement that 52,000,000 people need foot care.

Then the fact that in the film the prospective student was interviewed by one of the very best known guidance authorities, if not

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the best, certainly adds prestige to the film and chiropody.

Other excellent information is that the university counselor was acquainted with "Chiropody as a Career," that the chiropodist had a fine up-to-date office, and that the student was much impressed with the college he visited.

Finally, the few statements on *Recognition* and *Opportunities* cannot help but create a better attitude towards chiropody and chiropodists.

BOOK NOTICES

Textbook and Guide to the Standard Nomenclature of Diseases and Operations *by Edward T. Thompson, M.D., F.A.C.H.A., Senior Surgeon, Public Health Service and Adaline C. Hayden, R.R.L., Associate Editor, Standard Nomenclature of Diseases and Operations. Cloth. $8.00. Pp. 619. Physicians' Record Co., Publishers, Chicago 5, Ill., 1952.*

Standard Nomenclature of Diseases and Operations, *copyrighted 1952 by the American Medical Association. Fourth edition. Cloth. Pp. 1034. Country Life Press, Garden City, N. Y.*

The above two books are not recently published books but they are included in this notice because of the current activities in our organization in the standardization of nomenclature for diseases and operations.

Textbook of Chiropody *by Margaret J. McKenzie Swanson, B.Litt., F.Ch.S., Co-founder of Edinburgh*

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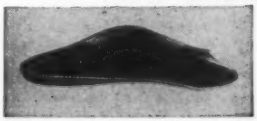

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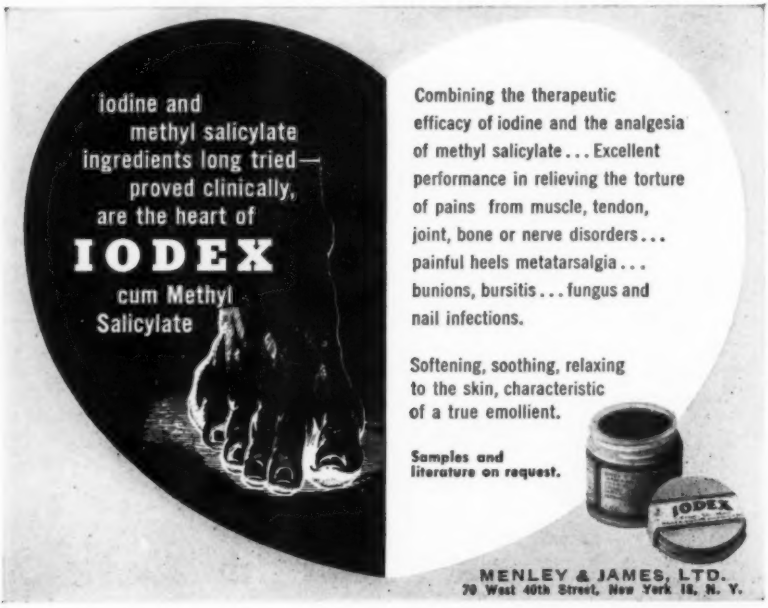
Foot Clinic and School of Chiropody; formerly Senior Lecturer in Chiropody and Therapeutics and Senior Clinical Teacher in Edinburgh School of Chiropody; Member of Fellowship Examining Board of the Society of Chiropodists. Second edition. Cloth. Pp. 268, with 160 illustrations. The Williams and Wilkins Company, Baltimore, Md., 1954.

A Pharmacopoeia for Chiropodists *by J. N. Le Rossignol, F.Ch.S., Lecturer in Materia Medica and Therapeutics, London Foot Hospital; Chiropodist-in-Charge, Royal London Homeopathic Hospital and C. B. Holliday, M.P.S., Pharmaceutical Chemist. Sixth edition. Cloth. Pp. 234. Faber and Faber Limited, 24 Russell Square, London, England.*

Public Relations in Medical Practice *by James E. Bryan, Administrator, Medical-Surgical Plan of New Jersey. Cloth. Pp. 301. The Williams and Wilkins Company, Mt. Royal and Guilford Aves., Baltimore 2, Md., 1954.*

Education for the Professions *by Lloyd E. Blauch, Chief for Education in the Health Professions. Pp. 317. Price $1.75 (paper) $2.75 (buckram). U. S. Department of Health, Education, and Welfare, Office of Education. U. S. Government Printing Office, Division of Public Documents, Washington 25, D. C.*

Guide to Earning a Living *by Ed Cunningham and Leonard Reed. A complete Survey of 119 Careers in Business, the Professions, Trade, Agriculture, and Government. Cloth. Pp. 116. Simon and Schuster, publishers, 630 Fifth Avenue, Rockefeller Center, New York 20, N. Y., 1955.*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COMMUNICATIONS TO THE MEMBERSHIP

THE AMERICAN FOOT HEALTH FOUNDATION

DESPITE the fact that Goldby and Byrne, Inc., are no longer directing the American Foot Health Foundation's fund raising effort, the drive is continuing under the direction of the Board of Directors of the Foundation. The ten-dollar contribution is as urgently needed now as it was previously. The expanding program of the Foundation and its added responsibilities must have the continued support of every chiropodist.

The long-promised Certificates of "Active Participation" are now being prepared, but the contributors are urged to be patient since this will be largely a clerical job and time is required.

SIDNEY HIRSCHBERG, D.S.C.
President

COMMUNICATION FROM CHAIRMAN N.A.C. INSURANCE COMMITTEE

ONE of our members was recently involved in a suit for alleged malpractice in the treatment of a patient in a city hospital. Although he was defended by the City Corporation Counsel, he, at the same time, carried personal Malpractice Liability Coverage.

While the doctor cooperated with the Corporation Counsel, *he*

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delayed giving notice to the Insurance Company until nine months after he had been informed that an attorney inquired about his treatment of the patient, and that the patient's leg was amputated. The Insurance Company was advised only after the insured was served with papers – nine months had elapsed from the time the doctor had the information and the notice of service, and his contact with the Company.

Numerous complications developed as a result of this delayed notice, and the insured suffered needless worry and anxiety. This could have been avoided had he advised the Company when he first learned of the inquiry regarding his treatment of the patient, and when he had reason to suspect that a suit would follow.

It is suggested that you *always* advise your Insurance Company, or Insurance Representative as soon as you have any intimation of a possible claim or a suit. Furthermore, I refer you to the March 1955 issue of "The Counsellor," which quotes from a recent New York Supreme Court case involving an assured's unreasonable delay in giving notice of an accident.

The following are some specimens of policy provisions regarding such notice.

Quotation from the Casualty Bureau's Standard Professional Liability Policy

"Upon the Insured becoming aware of any alleged injury covered hereby, written notice shall be given by or on behalf of the Insured to the Company, or any of its authorized agents as soon as practicable, together with the fullest information obtainable. If claim is made or suit is brought against the Insured, the Insured shall immediately forward to the Company every de-

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mand, notice, summons or other process received by him or his representative."

Quotations from NAC Policy

"Written notice of any injury, sickness or disease shall be given by or on behalf of the Insured to the Company or any of its authorized agents as soon as practicable. Such notice shall contain particulars sufficient to identify the Insured and also reasonable obtainable information respecting the time, place and circumstances of the injury, sickness, or disease, the names and addresses of the injured and of available witnesses."

"If claim is made or suit is brought against the Insured, the Insured shall immediately forward to the Company every demand, notice, summons or other process received by him or his representative."

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NEW DEAN APPOINTED TO CALIFORNIA COLLEGE

CLYDE M. RAPHAEL, D.S.C., President of the Board of Trustees of the California College of Chiropody, wishes to announce the appointment of Pierce B. Nelson, B.S., D.S.C., as Dean of California College of Chiropody.

APPOINTED LIEUTENANT COMMANDER

DR. JOSEPH M. TURCHIN of Santa Monica, Calif., has been selected by the Navy for appointment to the rank of Lieutenant Commander, M.S.C., U.S.N.R. (Podiatry).

ORGANIZATION NEWS

NEW YORK

THE Podiatry Society of the State of New York will celebrate its 60th

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Anniversary at the coming Annual Foot Care Conference, which will be held on March 2-4, 1956. A complete program of special arrangements under the supervision of a 60th Anniversary Committee which has been working all year, will mark the culmination of 60 years of progress, dedication and professional growth.

Our convention headquarters will be the Barbizon Plaza Hotel, which boasts of the finest intimate theatre in the world. No longer will scientific presentations be marred by improper lighting, acoustics or seating arrangements.

The program is being geared to the expressions voiced by the membership in reply to our convention questionnaire sent out immediately following last year's Foot Care Conference. The important aspects of patient management and other practical phases of daily office practice will be covered completely. This is what we mean by The Guaranteed Convention—we guarantee to give the membership what they want.

For the ladies, we have planned a full program of activities. Your wives, sweethearts and office assistants will bless you for bringing them along.

The Grand Ballroom of the Hotel Pierre will be the setting for our Annual Dinner Dance. We have told the Dinner Committee to pull out all stops and spare no expense in planning this celebration—our 60th Birthday.

PENNSYLVANIA

At the recent meeting of the Chiropody Society of Pennsylvania, the following officers were elected:

President, Dr. C. D. Bossart
President-elect, Dr. William Jeffery
Vice President, Dr. T. Huels

ORTHOPEDIC FOOT APPLIANCES

Levy Moulds and foot moulds as produced by our laboratory are made for the particular condition, over individually corrected casts. They are indicated in most metatarsal conditions of mechanical origin, some toe conditions, foot strain, incipient pronation and heel problems of mechanical origin. Our inverting 'C' Moulds work especially well in controlling pronation in youngsters in the 1-6 age group.

Casts for moulds should be made with the plantar of the foot on a horizontal plane. If plaster strips are used, leave the dorsum of the foot and the tips of the toes uncasted to permit elongation when placing the foot in the plantar position.

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Treasurer, Dr. L. K. Seibert
N.A.C. Alternates, Drs. M. Detwiler, A. W. Newman
N.A.C. Delegates, Drs. B. Egerter, C. Krausz, M. Speizman, L. Newman
Board of Governors, Drs. P. Schneyer, E. Harford

Dr. A. M. Schultz was elected Convention Manager and Dr. L. Lindenberg, Assistant Convention Manager. Recipient of the Annual Award was Dr. H. W. Orr.

Western Division

The Western Division of the Chiropody Society of Pennsylvania held a meeting at the Mellon Institute, Pittsburgh, Thursday, October 13, 1955.

The speaker of the evening was Mr. Norman Ray, Attorney-at-Law, of the Fidelity Trust Company of Pittsburgh. His topic of discussion was "Estate Planning and Investments."

MISSOURI

At the 40th Annual State Meeting of the Missouri Association of Chiropodists, Inc., which was held in St. Louis, October 7-9, 1955, the following officers were elected for the year 1955-56:

President, Dr. Robert Triplett
President-elect, Dr. Edwin H. Hindes
Vice President, Dr. Florence Peters
Secretary, Dr. Charles B. Footlick
Treasurer, Dr. Oscar L. Lippard
N.A.C. Delegate, Dr. George B. Clark
N.A.C. Alternate, Dr. L. A. Hansen
Region Six Delegate, Dr. J. W. Carby
Editor, Missouri Bulletin, Dr. John Moros

The scientific speakers were Drs. C. L. Meyer, Galesburg, Ill.; Darwin Conley, Tulsa, Okla.; E. G. Kaplan, Detroit, Mich.

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CALIFORNIA

Dr. Charles Turchin, Washington, D. C., will lecture on January 21 and 22, 1956, at the Statler Hotel, Los Angeles, Calif. Attendance will be limited to N.A.C. members only. Information as to fees and registration may be obtained from Dr. Julian Segal, 8820 Wilshire Blvd., Los Angeles, Calif., Chairman of the Scientific Committee.

MASSACHUSETTS

The Massachusetts Chiropody Association held its annual meeting on Sunday, October 9, 1955. The following officers were elected:

President, Dr. Francis B. Powers
President-elect, Dr. Frank N. Maconi
Vice President, Dr. Sidney Heller
Vice President, Dr. Carlman I. Fisher
Executive Secretary, Dr. Sidney G. Holmes

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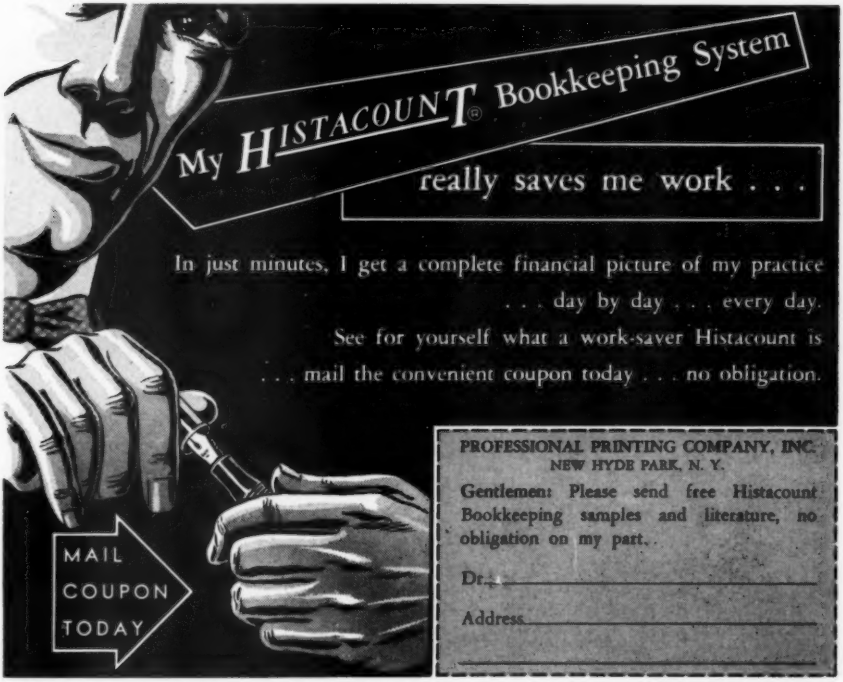
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DEATHS REPORTED

Dr. Donald B. Johnson
Albuquerque, N. Mex.

DR. JOHNSON passed away September 23, 1955, in Albuquerque, New Mexico. He was a graduate of the Illinois College of Chiropody and Foot Surgery, Class of 1938.

Dr. Johnson practiced in Evansville, Ind., until he moved to Albuquerque last winter.

Dr. Edward O. O'Hare
Washington, D. C.

DR. O'HARE passed away on October 29, 1955. He was a Charter Member of the Podiatry Society of the District of Columbia and third generation of a family of pioneer podiatrists in Washington (Dr. Georges and Son).

Quiet, unobtrusive, with an infectious grin and a friendly manner, "Eddie" was a devoted family man, a loyal member of his church, and a faithful and dependable practitioner of his profession. Among his many prominent patients was the late Wm. Howard Taft, President of the United States.

Dr. Fred A. Arst
Wichita, Kan.

DR. ARST passed away suddenly and unexpectedly on October 16th in Raton, New Mexico, while he and his wife were en route to California for a vacation. Death was attributed to coronary occlusion.

Dr. Arst was 47 years old and graduated from the Illinois College of Chiropody and Foot Surgery in 1930. He was awarded the Weiss Memorial Plaque upon graduation and was Professor of Anatomy at the Illinois College, 1930-31.

He was President of the Kansas State Board of Chiropody Examiners from 1939 until the time of his death. He was in practice for 24 years in Wichita, Kansas. Dr. Arst was instrumental in successfully promoting modern legislation for chiropody in Kansas.

Dr. Arst was a frequent contributor to our periodicals. He was a featured speaker at the N.A.C. meetings and many state and national conventions. In 1950-51, he conducted a post graduate course at the Ohio College. His last speaking engagement was at the Region Three meeting in April 1955.

His civic affiliations included the past presidency of the Temple Emanu-El, membership in the Rotary International and the Rolling Hills country club.

He is survived by his wife, Maryon, and two sons, David and Roger.

CONVENTION DATES

1956

NATIONAL ASSOCIATION OF CHIROPODISTS

Chicago, Ill.,
August 1-9, 1956
Drake Hotel

PODIATRY SOCIETY OF THE STATE OF NEW YORK

New York City, N. Y.,
March 2-4, 1956
Barbizon Plaza Hotel

REGION FIVE

Chicago, Ill.,
March 16-18, 1956
Morrison Hotel

REGION THREE

Atlantic City, N. J.,
April 12-15, 1956
The Ambassador

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General Chiropody Supply, Brooklyn, N. Y.
Julius Rothschild, Long Island, New York
Katzenstein Professional Supply Corp., N. Y.
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The Journal of the National Association of Chiropodists, published monthly at Boston, Mass., for Oct. 1, 1955.

1. The names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, National Association of Chiropodists, 3301 16th St., N.W., Washington 10, D. C., Editor, A. Rubin, D.S.C., 3301 16th St., N.W., Washington 10, D. C.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.) Dr. R. E. Fowler, President, 3050 Joy Road, Detroit, Mich.; Dr. F. O. Gamble, President-elect, 1888 North Country Club Road, Tucson, Ariz.; Dr. A. Rubin, Secretary, 3301 16th St., N.W., Washington, D. C.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and tri-weekly newspapers only.)

Signed A. RUBIN, D.S.C., Editor

Sworn to and subscribed before me this 29th day of September, 1955. Elizabeth B. Welch. My commission expires Dec. 14, 1956.

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Made With or Without Casts

The new **SaperFlex Molded Inlay** combines time-tested, lightweight **Super Saddle leather shells** with a balancing element of Saperston's **exclusive formula sponge rubber*** hand buffed to individual requirements presenting a utility appliance which is solving many of the profession's most difficult problems.

Our own density controlled rubber is the most **versatile** — the most **comfortable** — and the most **successful** material for corrective elevations. Its action is instantaneous and automatic. Practically indestructible, it never crumbles, packs down, or distorts, affording continued **sustained balance.**

The **automatic conformity** of the balancing area permits firm, but yielding contact from heel to toe — the Super Saddle **effect** inhibits lateral motion — creating the desired **stability** and **comfort.**

TO ORDER IMMEDIATELY specify **Saperflex** Molded Inlays — Regular or Heavy Duty Construction.

OR FOR COMPLETE INFORMATION, Write Dept. J.

* **NOT foam** or **commercial** sponge rubber.

SAPERSTON LABORATORIES

NEW ADDRESS: 22 W. Madison St., Chicago 2, Illinois

established 1918

something **really new**

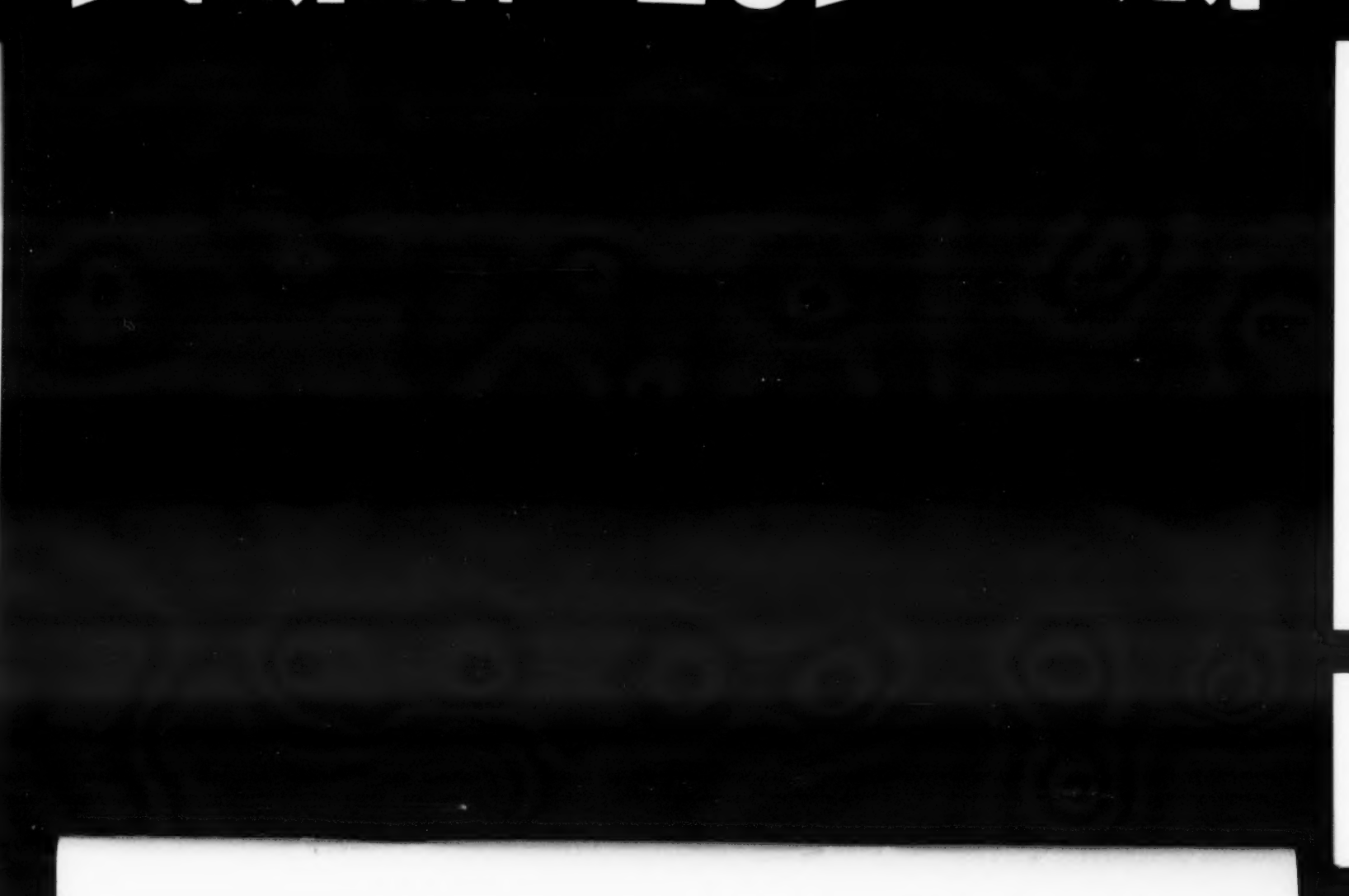
for Chiropodists

BUR-VEEN
WET DRESSING POWDER

a new concept in wet dressing therapy

It combines the recognized therapeutic effect of Burow's Solution with the added soothing and skin-protective effect of Aveeno Colloidal Oatmeal.

BUR-VEEN is available in boxes containing six packets. One packet added to a pint of water produces a modified 1:20 Burow's Solution in a demulcent colloidal suspension. Dilution may be varied as desired.

Send for a liberal supply of professional samples

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